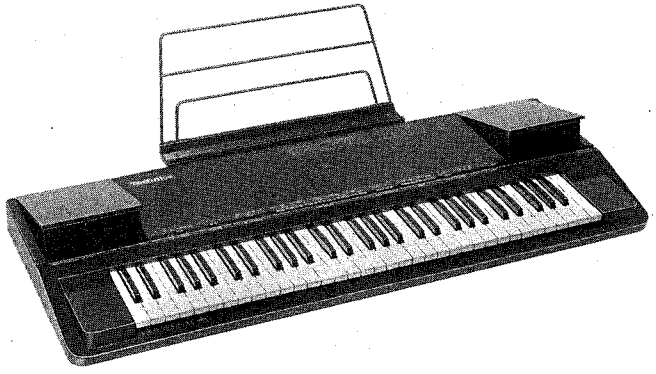
ORDER NO. EOS-84-1075

Service Manual

PCM Digital Piano

SX-PV10

(EN), (EI), (EH), (EB), (EF), (EG), (EW), (EL), (EP), (EK), (MC), (XT), (XL), (XR), (XS), (X), (XX), (XV)



AREAS

(EN):	Norway, Sweden, Denmark	(MC):	Canada
(EI):	Italy	(XT):	Taiwan
(EH):	Holland	(XL):	New Zealand
(EB):	Belgium	(XR):	Australia
(EF):	France	(XS):	Malaysia, Singapore, South Africa
(EG):	Germany, Austria	(X):	the Middle East, Hong Kong, the Philippines, Indonesia
(EW):	Switzerland		
(EL):	Finland		
(EP):	Spain	(XV):	Venezuela, Ecuador, Panama
(EK):	the United Kingdom	(XX):	Peru, Chile

Main Features

- 10 Polyphonic PCM Digital Sounds
- Pop-Up Stereo Speaker System
- MIDI Equipped
- Triple Sound Effects
  Chorus, Celeste, Phaser

Specifications

Keyboard:	61 Keys (5 octaves)
Tone Selector:	Acoustic Piano, Electric Piano, Harpsichord, Clavi, Vibraphone, Glocken, Acoustic Guitar, Jazz Guitar, Steel Drum, Banjo
Harmonic Control:	○ • ✸ (mellow, normal, bright)
Effects:	Chorus, Celeste, Phaser, Cancel
Sustain:	on, Control (▸ ▸ ►)
Tuning:	Control (♭ • ♯).....428Hz~452Hz
Transpose:	Control (G ~ C ~ F♯/♭)
MIDI Terminals:	In, Out, Thru
Others:	Power Switch, Main Volume, Pedal In Terminal (sustain, exp.), Line Out Terminal, Line Out Level (high/low), Headphone Jack, AC Cord Input
Output:	10W (5W×2)
Speaker:	14cm (5-1/2″)×2, 8Ω
Power Requirement:	65W, AC 120/220/240V, 50/60Hz AC 120V, 60Hz (North America)
Cabinet (W×H×D):	106cm ($41^{23}/_{32}$″)×8.7cm ($3^{7}/_{16}$″)×40.9cm ($16^{3}/_{32}$″)
Net Weight:	14.3kg (31.5 lb)
Accessories:	Music Rack, Sustain Pedal, Dustcover, AC Cord

Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

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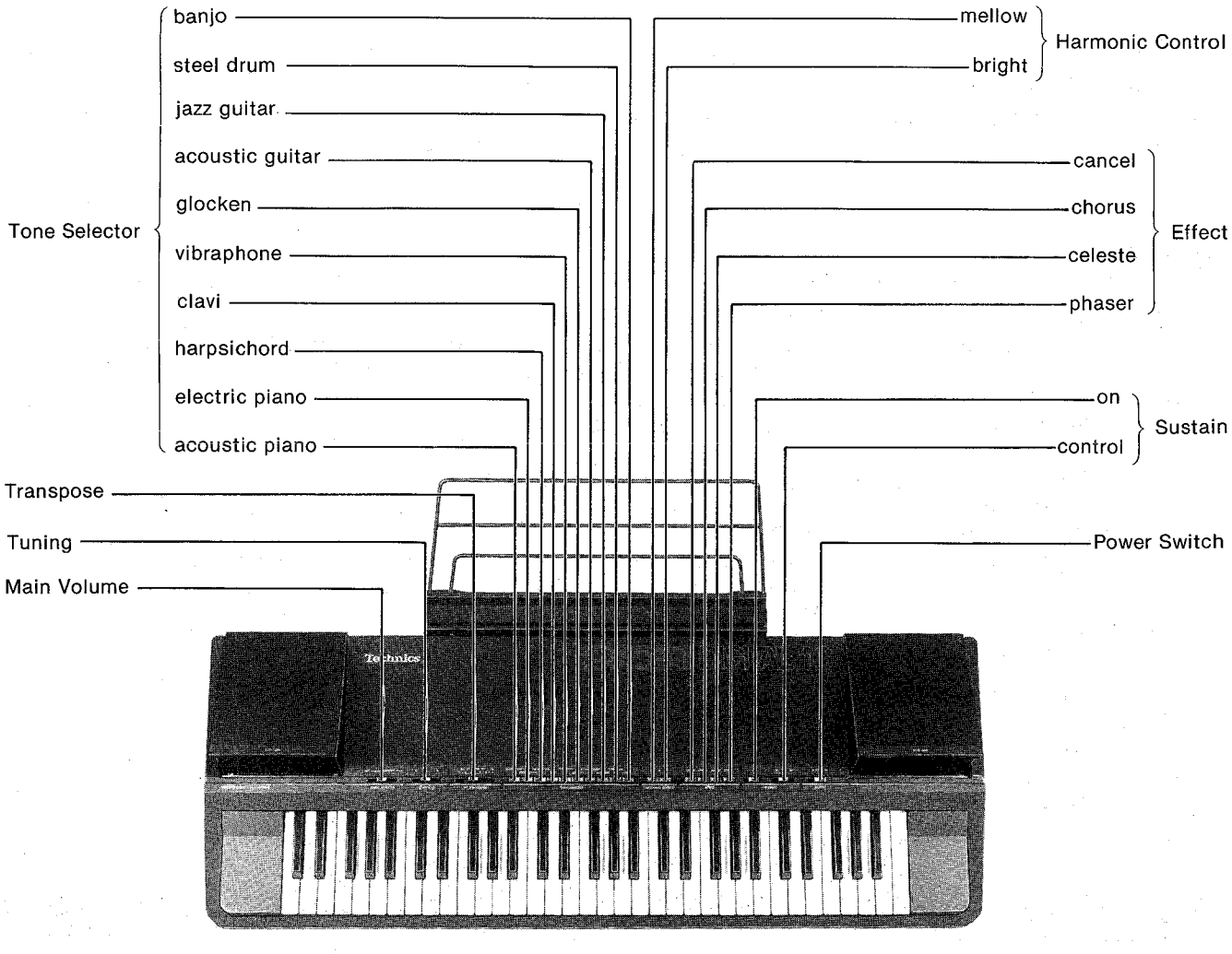
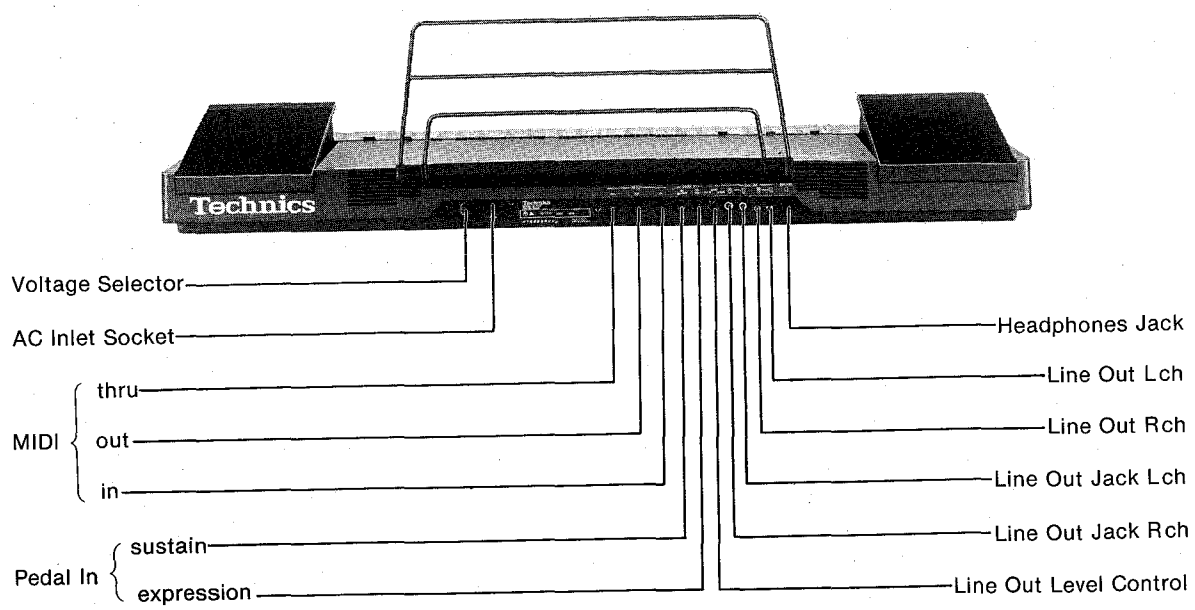
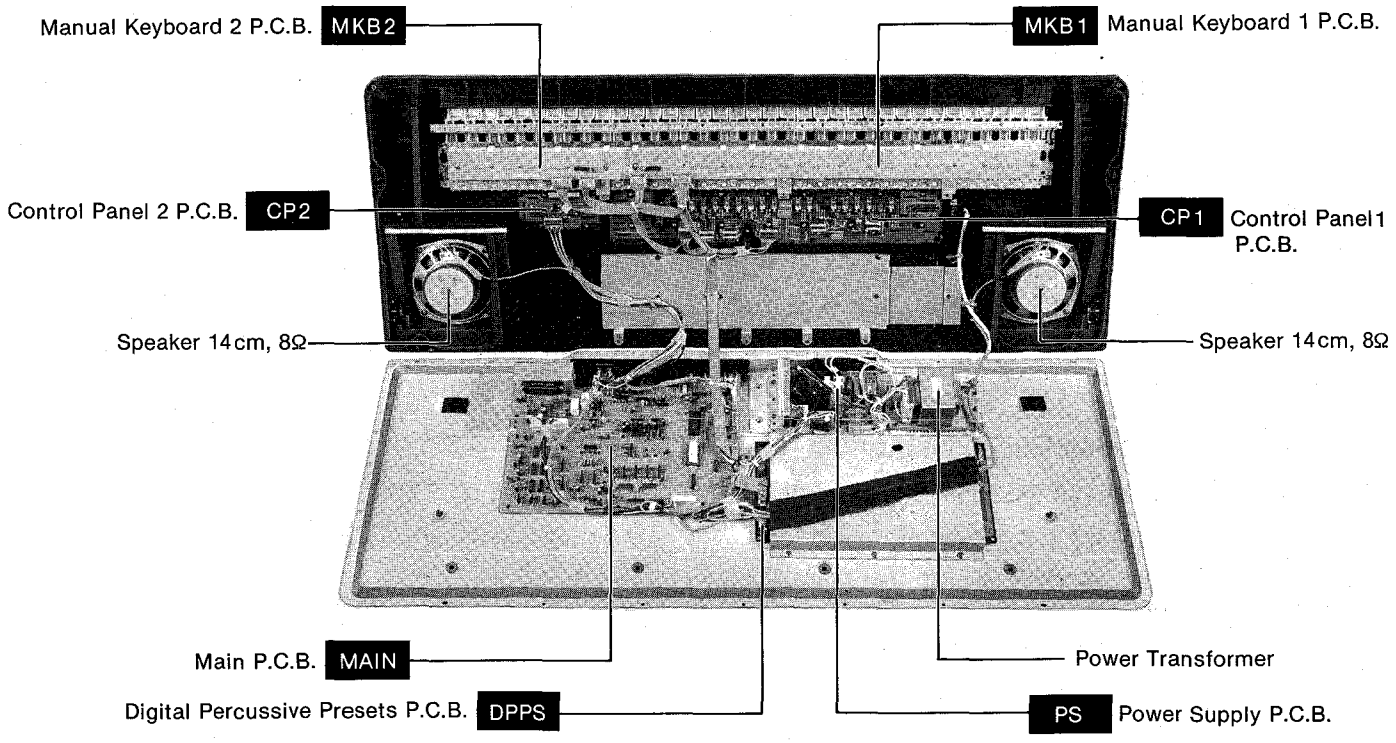
LOCATION OF CONTROLS AND PARTS



[Photo-1]



[Photo-2]

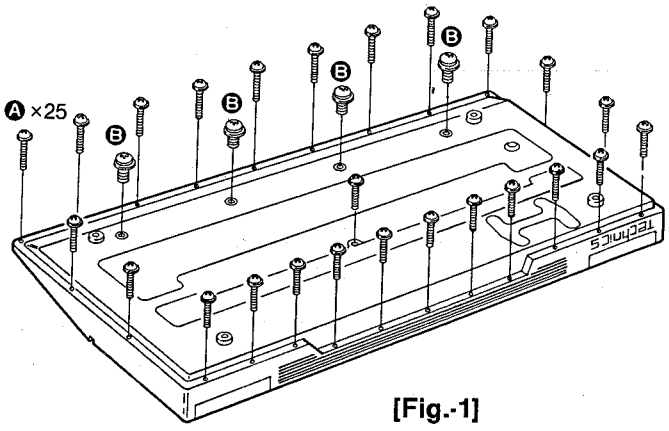


[Photo-3]

DISASSEMBLY INSTRUCTIONS

1. How to remove the cabinet

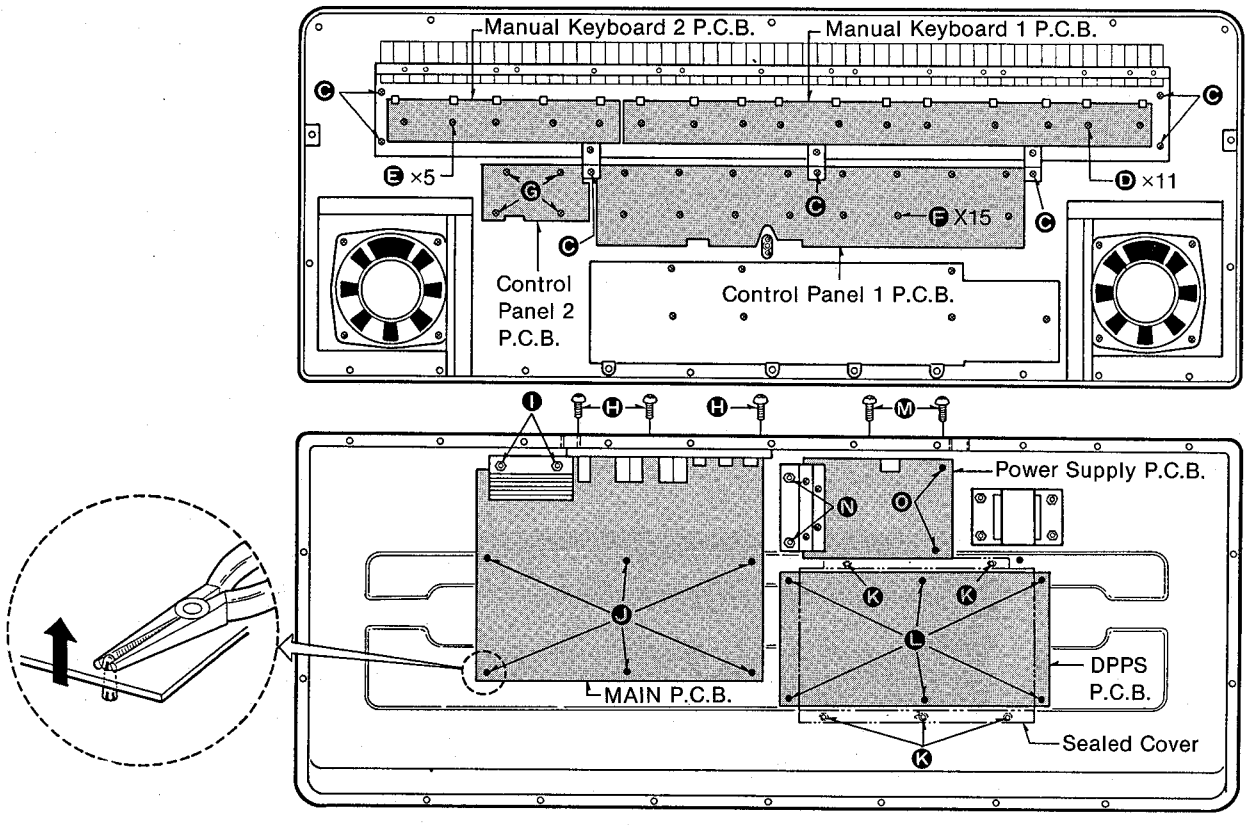
a) Remove the 25 setscrews Ⓐ and 4 setscrews Ⓑ on the bottom board.
b) Lift the bottom board and open it to the back of the cabinet.



[Fig.-1]

2. How to remove the keyboard

a) Open the cabinet according to step 1.
b) Remove the 7 setscrews Ⓒ which fasten the keyboard chassis.
c) Then the keyboard can be removed.



[Fig.-2]

3. How to remove the printed circuit boards

* Open the cabinet and pull out the connector of printed circuit boards.

■ Manual keyboard 1 (MKB1) P.C.B.

a) Remove the 11 set screws Ⓓ on the manual keyboard 1 P.C.B.
b) Release the 11 claws of P.C.B. holder to remove the manual keybaord 1 P.C.B.

■ Manual keyboard 2 (MKB2) P.C.B.

a) Remove the 5 setscrews Ⓔ on the manual keyboard 2 P.C.B.
b) Release the 5 claws of P.C.B. holder to remove the manual keyboard 2 P.C.B.

■ Control panel 1 (CP1) P.C.B.

a) Pull out the main volume knob and tuning knob on the control panel 1 P.C.B.
b) Remove the 15 setscrews Ⓕ on the control panel 1 P.C.B.

■ Control panel 2 (CP2) P.C.B.

a) Pull out the sustain control knob on the control panel.
b) Remove the 4 setscrews Ⓖ on the control panel 2 P.C.B.

■ Main P.C.B.

a) Remove the 3 setscrews Ⓗ on the back of the lower cabinet.
b) Remove the 2 nuts Ⓘ on the heatsink.
c) Release the 6 claws Ⓙ of P.C.B. holder to remove the main P.C.B.

■ **Digital percussive presets (DPPS) P.C.B.**

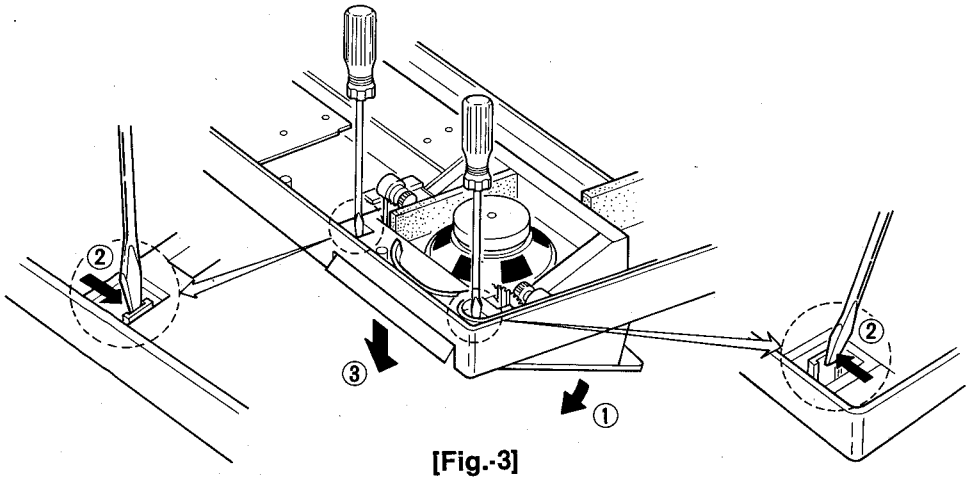
a) Remove the 5 nuts ⓚ which fasten the sealed cover. Then the sealed cover can be removed.
b) Release the 6 claws ⓛ of P.C.B. holder to remove the digital precussive presets P.C.B.

■ **Power supply (PS) P.C.B.**

a) Remove the 2 setscrews Ⓜ on the back of the lower cabinet.
b) Remove the 2 nuts Ⓝ on the heatsink.
c) Release the 2 claws Ⓞ of P.C.B. holder to remove the power supply P.C.B.

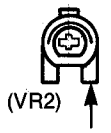
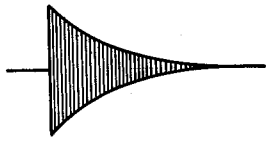
4. How to remove the speaker grille

a) Open the cabinet according to step 1.
b) Open the speaker grille while pressing the "push open" area of the speaker grille.
c) Insert a screwdriver as in Fig.-3 and push down the speaker grille while shifting down the fulcrum part of speaker grille to remove the speaker grille.



[Fig.-3]

MEASUREMENTS AND ADJUSTMENTS

ADJUSTMENT	SETTING	METER USED	ADJUSTMENT CIRCUIT BOARD	ADJ. POINT	CONNECT METER TO	METER READING
BBD bias (Celeste)	Effector .....Celeste Keyboard.....ON	Oscilloscope Oscillator	Main Circuit (MAIN)	VR1	Check point ❶	
	1. Connect the oscilloscope to check point ❶ of Main circuit. 2. Unsolder the ⊖ terminal of capacitor C32 (50V 1), and input 1kHz sine wave there. Then, adjust the output level of oscillator until the output waveform of check point ❶ is clipped. 3. Adjust VR1 so that the output waveforms on the oscilloscope are evenly clipped at top and bottom.					
Percussive presets output level	——	DC voltmeter	Digital Percussive Presets Circuit (DPPS)	VR2	 (VR2) DC Voltmeter	+1.0V
	1. Connect DC voltmeter to VR2 terminal, and adjust VR2 so that the voltage is +1.0V.					
Percussive presets DC level	Tone selector .....Vibraphone Keyboard.....C4 Key	Oscilloscope	Digital Percussive Presets Circuit (DPPS)	VR3	Check point ❺	——
	1. Connect the oscilloscope to check point ❺ of DPPS circuit. 2. Adjust VR3 so that the waveform on the oscilloscope is equal in level between top and bottom when the C4 key of keyboard is turned ON.					

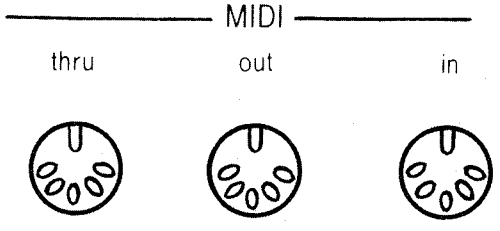
FUNCTION OF MIDI TERMINALS

MIDI Terminals

MIDI (Musical Instrument Digital Interface) is the standard specification that enables connection to equipment such as synthesizers and personal computers. Data transmission and reception are possible between the Technics Digital Piano and equipment provided with MIDI terminals.

■ The Technics Digital Piano makes the following data transmission and reception possible.
1. Keyboard on/off
2. Tone selector button on/off
3. Effect button on/off
4. Sustain button on/off

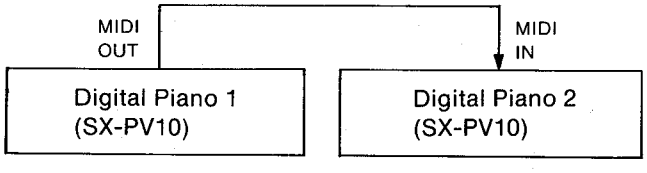
- This data cannot be received by some equipment.
- When connected to equipment that has a hold function, the digital piano sustain on switch will bork with this function to hold a note indefinitely.



In: The terminal that receives data from external equipment.
Out: The terminal that transmits data from the digital piano to external equipment.
Thru: The terminal that transfers data from the In terminal directly to other equipment.

- Use a 5-pin DIN cord (less than 15 m long) for these connections.

■ **Connection Example**
- To control two digital pianos with one



The same notes played on digital piano 1 will also be emitted from piano 2.
When the switching data for the tone selector buttons is cancelled, play in a different tone is possible.

■ **Data Cancellation**
All data, except that for keyboard on/off, can be cancelled to prevent transmission to connected equipment.
1. Turn off the piano.
2. ■ To cancel the data for tone selector button on/off:
Turn on the digital piano while the acoustic piano button of the tone selector is held down.
■ To cancel the data for effect button on/off:
Turn on the digital piano while the electric piano button of the tone selector is held down.
■ To cancel the data for sustain button on/off:
Turn on the digital piano while the harpsichord button of the tone selector is held down.
■ To cancel data for two or more operations, turn on the digital piano while the corresponding buttons of the tone selector are held down.
- Turning the digital piano off and on again restores all the cancelled data.
- Conversely, when the digital piano is controlled by data from an external source and the above operation is performed on the digital piano, the switching functions did not work according to the input data.

■ **OMNI Mode**
- Both transmission and reception are fixed on channel 1 on this digital piano.
- Moreover, the OMNI mode is normally on for reception of any channel signal.
- To turn the OMNI mode off for reception of only the channel 1 signal, while depressing the vibraphone button, turn on the power. The OMNI mode will automatically turn on when the power is turned on again.

MIDI Implementation Chart

[8 - voice digital piano Model SX-PV10]

Function...		Transmitted	Recognized	Remarks
Basic	Default	1	1	
Channel	Chaged	×	×	
	Default	3	1, 3	**Mode 3:** Turn on the power while depressing the vibraphone button.
Mode	Messages	×	OMNI ON/OFF POLY/MONO	
	Altered	**********	2, 4 → 1	
Note		36 ~ 96	30 ~ 112	Changes depending on the position of the Transpose slide control.
Number	True voice	**********	36 ~ 107	
Velocity	Note ON	×	×	
	Note OFF	× (9nH V=0)	×	
After	Key's	×	×	
Touch	Ch's	×	×	
Pitch Bender		×	×	
	64	○ ×	○ ×	sustain button, pedal
	93	○ ×	○ ×	chorus button
Control	94	○ ×	○ ×	celeste button
Change	95	○ ×	○ ×	phaser button
				(Refer to Note 1)
Prog		○ (0 ~ 9) ×	○ (0 ~ 127) ×	(Refer to Note 2)
Change	True #	**********	0 ~ 9	
System Exclusive		×	×	
System	Song Pos	×	×	
	Song Sel	×	×	
Common	Tune	×	×	
System	Clock	×	×	
Real Time	Commands	×	×	
Aux	Local ON/OFF	×	×	
	All Notes OFF	○	○ (123 / 124 ~ 127) × (123)	(Refer to Note 3)
Messages	Active Sense	×	×	
	Reset	×	×	
Notes		1. Control change ○, × ... Changes depending on how the power was turned on. 2. Prog. change ○, × ..... Changes depending on how the power was turned on. 3. Aux All Notes OFF Recognized ..... C = 123 is not recognized when operating in Mode 1.		

Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○ : Yes

Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO × : No

MIDI Data Format

1. TRANSMITTED DATA

STATUS	DATA 1st	DATA 2nd	Description	
1001nnnn	0kkkkkkk	0vvvvvvv	Note On/Off	• Channel Number n = 0 (ch = 1) • Note Number k = 36~96 (C1~C6) • Note Velocity v = 0: Note Off v = 64: Note On
1011nnnn	0ccccccc	0vvvvvvv	Control Change	• Channel Number n = 0 (ch = 1) • Control Number c=64 Sustain Button, Pedal c=93 Chorus Button c=94 Celeste Button c=95 Phaser Button • Control Value v = 0: Off v = 127: On (Refer to Note 1)
1100nnnn	0ppppppp	———	Program Change	• Channel Number n = 0 (ch = 1) • Program Number p = 0~9 p=0 acoustic piano 1 electric piano 2 harpsichord 3 clavi 4 vibraphone 5 glocken 6 acoustic guitar 7 jazz guitar 8 steel drum 9 banjo (Refer to Note 2)
1011nnnn	0ccccccc	0vvvvvvv	All Notes Off (Mode Message)	• Channel Number n = 0 (ch = 1) • c=123 v=0 All Notes Off (Refer to Note 3)

Notes:
1. • When the power is turned on while depressing the electric piano button, the on/off information for the effect (chorus, celeste, phaser) is not sent or received.
   • When the power is turned on while depressing the harpsichord button, the on/off information for the sustain is not sent or received.
2. When the power is turned on while depressing the acoustic piano button, the switching information for the tone selector is not sent or received.
3. The transmitter sends All Notes Off when all of the keys are released.

2. RECOGNIZED RECEIVE DATA

STATUS	DATA 1st	DATA 2nd	Description	
1000nnnn	0kkkkkkk	0vvvvvvv	Note Off	• Channel Number ① n = 0 (ch = 1) ② n = 0~15 (ch = 1~16) • Key Number k = 30~112 (Changes depending on the transpose position.) • Key Off Velocity v: ignored
1001nnnn	0kkkkkkk	0vvvvvvv	Note On/Off	• Channel Number ① n = 0 (ch = 1) ② n = 0~15 (ch = 1~16) • Key Number k = 30~112 (Changes depending on the transpose position.) • Key Velocity k = 0 (Key Off) k = 1~127 (Key On)
1011nnnn	0ccccccc	0vvvvvvv	Control Change	• Channel Number ① n = 0 (ch = 1) ② n = 0~15 (ch = 1~16) • Control Number c=64 Sustain Button, Pedal c=93 Chorus Button c=94 Celeste Button c=95 Phaser Button • Control Value v = 0: Off v = 127: On (Refer to Note 1)
1100nnnn	0ppppppp	———	Program Change	• Channel Number ① n = 0 (ch = 1) ② n = 0~15 (ch = 1~16) • Program Number p = 0~127 0ppppppp ignored / available 0, 10 acoustic piano 1, 11 electric piano 2, 12 harpsichord 3, 13 clavi 4, 14 vibraphone 5, 15 glocken 6 acoustic guitar 7 jazz guitar 8 steel drum 9 banjo (Refer to Note 2)
1011nnnn	0ccccccc	0vvvvvvv	Mode messages	• Channel Number n = 0 (ch = 1) •

c	v	
123	0	All Notes Off
124	0	OMNI Mode Off (All Notes Off)
125	0	OMNI Mode On (All Notes Off)
126	ignored	Mono Mode On (All Notes Off)
127	0	Poly Mode On (All Notes Off)

(Refer to Note 3)

Notes: 1. • When the power is turned on while depressing the electric piano button, the on/off information for the effect (chorus, celeste, phaser) is not sent or received.
• When the power is turned on while depressing the harpsichord button, the on/off information for the sustain is not sent or received.
2. When the power is turned on while depressing the acoustic piano button, the switching information for the tone selector is not sent or received.
3. When the power is turned on while depressing the vibraphone button, the mode goes to the OMNI OFF Poly mode (mode 3).
When the power is turned on under all other conditions, the mode goes to the OMNI ON Poly mode (mode 1).
Digital piano will only run in the OMNI ON Poly mode (mode 1) or OMNI OFF Poly mode (mode 3), so when MONO ON (c = 126) data is received, it operates in the OMNI ON Poly mode (mode 1).
When operating in the OMNI OFF Poly mode (mode 3) and c = 123 ~ 127 data is received, all notes are turned off. However, when operating in the OMNI ON Poly mode (mode 1), the c = 123 data for All Notes OFF is ignored, and only c = 124 ~ 127 data for All Notes OFF is recognized.
4. ①....When operating in the OMNI OFF Poly mode (mode 3).
②....When operating in the OMNI ON Poly mode (mode 1).

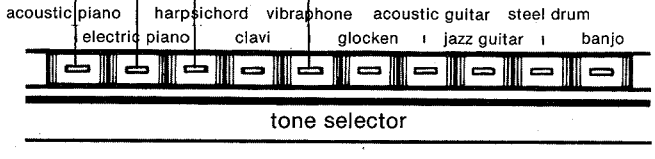
Conclusion

•When the power is turned on while depressing the acoustic piano button, tone selector information (program changes) is not sent or received.

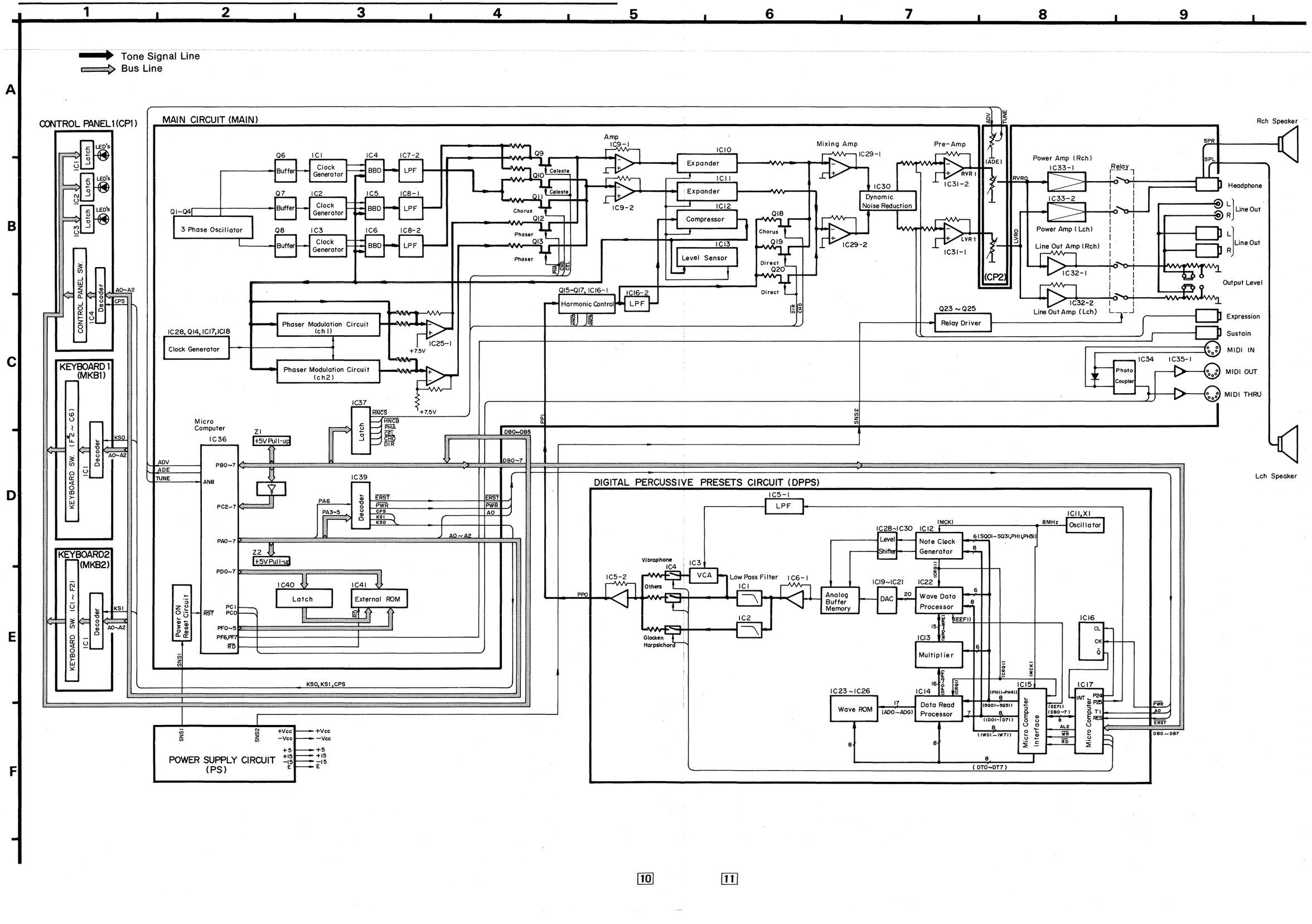
•When the power is turned on while depressing the electric piano button, effect information (control changes: c = 93 ~ 95) is not sent.

•When the power is turned on while depressing the harpsichord button, sustain information (control changes: c = 64) is not sent or received.

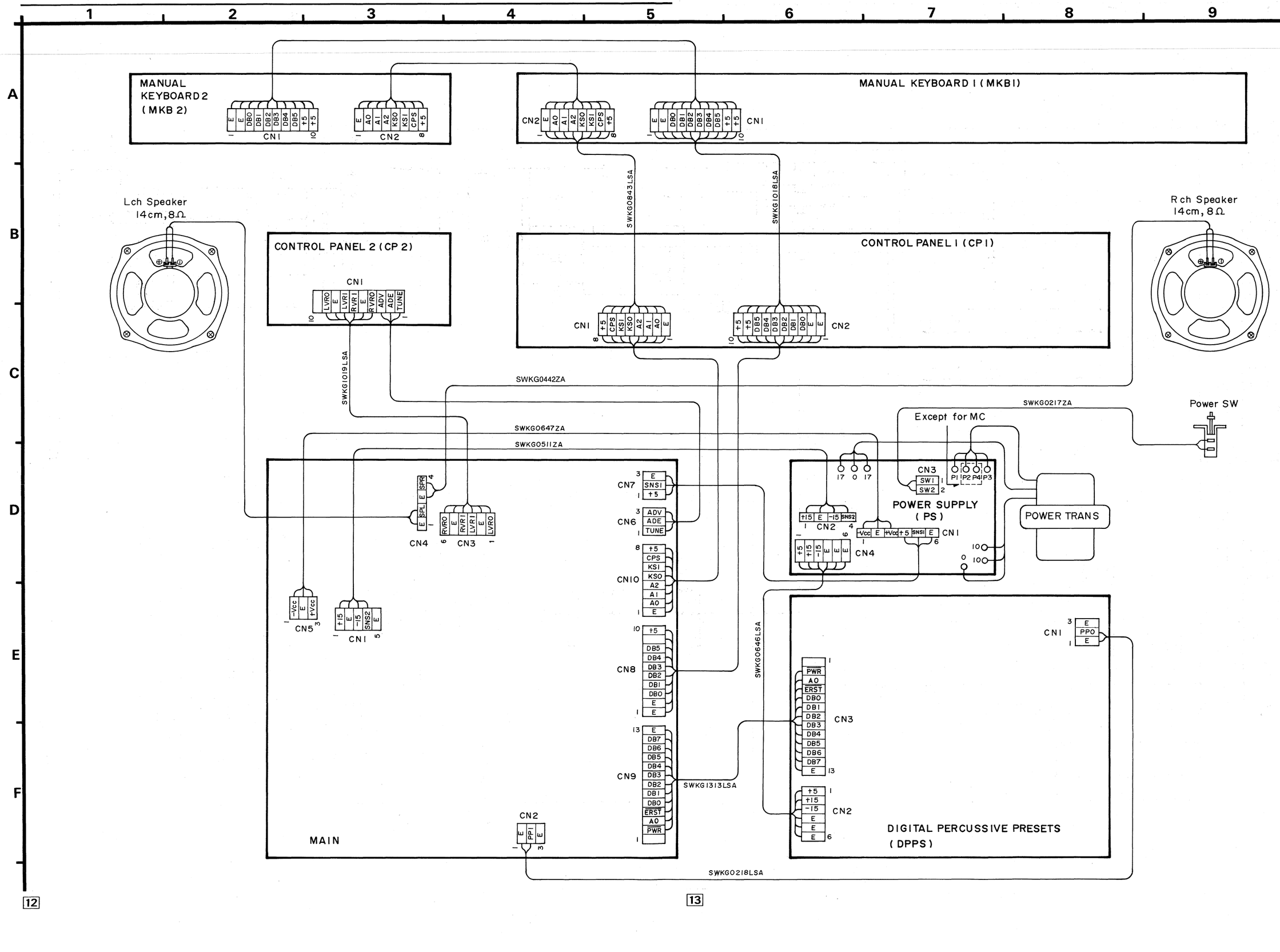
•When the power is turned on while depressing the vibraphone button, the mode goes to the OMNI OFF Ploy mode (mode 3).



TOTAL BLOCK DIAGRAM



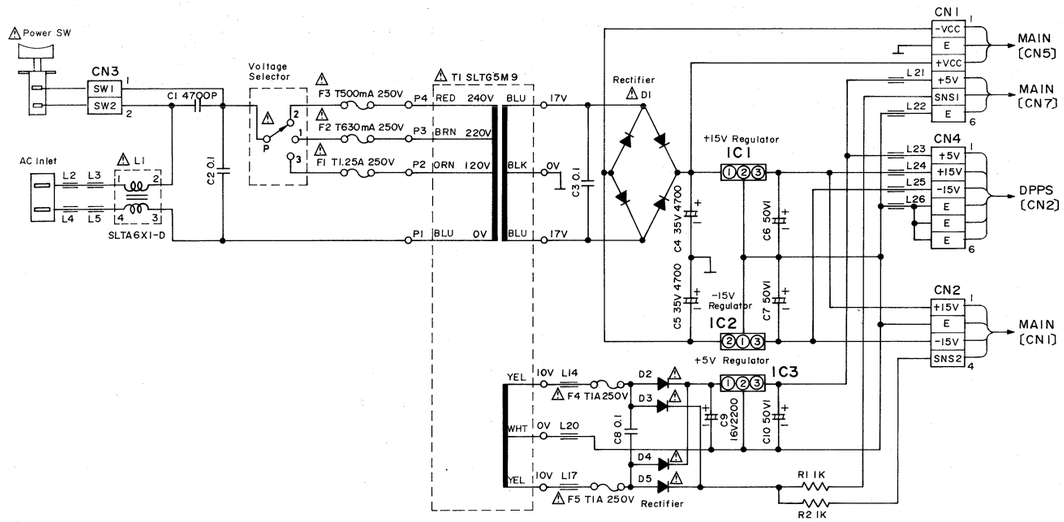
WIRING CONNECTION DIAGRAM



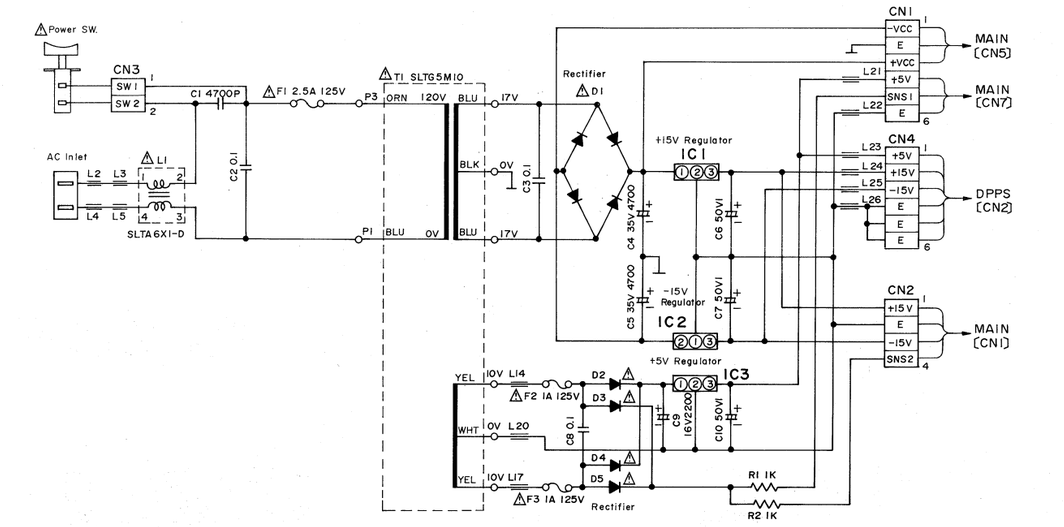
POWER SUPPLY CIRCUIT DIAGRAM (PS)

■ Important safety notice:

Components identified by ⚠ mark have special characteristics for safety.
When replacing any of these components, use only manufacturer's specified parts.



■ Products for [MC] only.



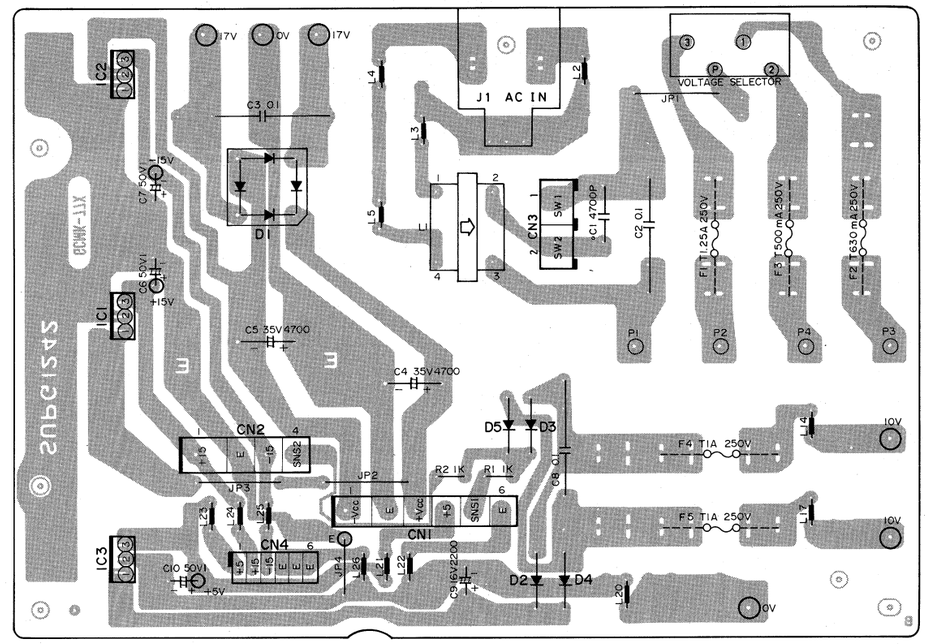
PS

NOTES:

- IC'S
  - IC1: AN7815
  - IC2: AN7915
  - IC3: AN7805
- DIODES
  - D1: SVDS4VB10
  - D2∼5: SVDGSM1A02LF
- COILS & LINE FILTER
  - L1: SLTA6X1-D
  - L2∼5, 14, 17, 20∼26: SLCGRN2

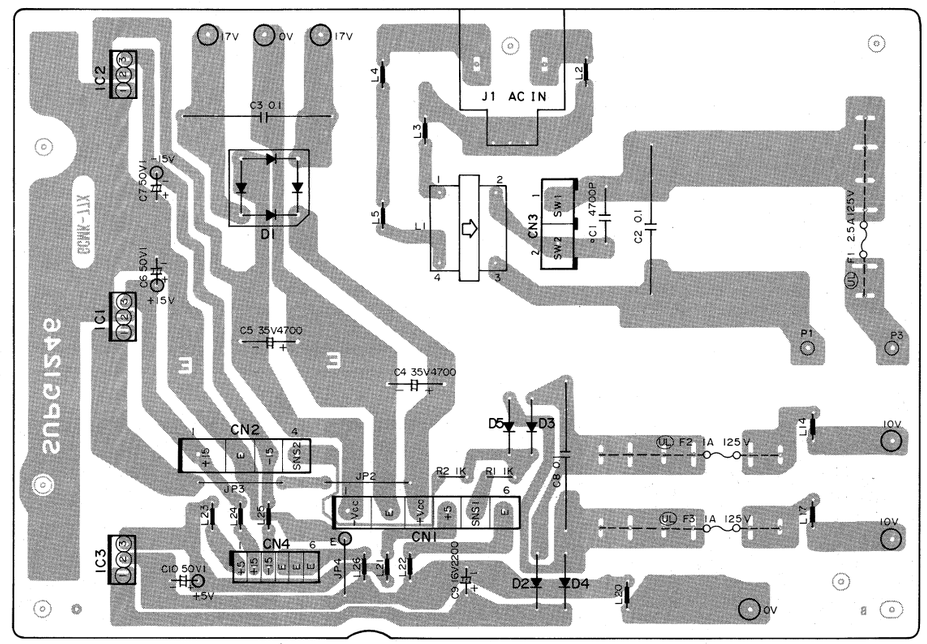
POWER SUPPLY CIRCUIT BOARD (PS)

SXPG12421



■ Products for [MC] only.

SXPG12461

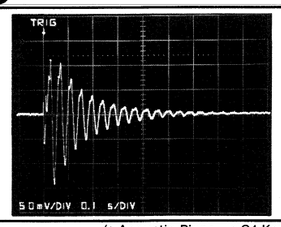


DIGITAL PERCUSSIVE PRESETS CIRCUIT BOARD (DPPS)

■ Measuring of output waveforms

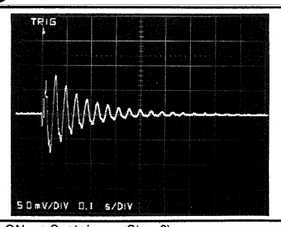
1. The waveform was measured by "National Digital Strage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may somewhat change due to variation of timing of measure.
2. The voltage shown in the photo is 1/10 of the actual value. However, the actual voltage is 10 times of as shown in this photo.

❶

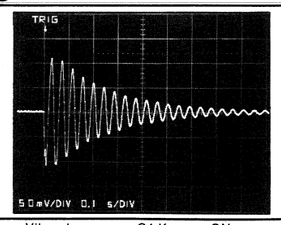


(• Acoustic Piano • C4 Key.....ON • Sustain.....Step 3)

❷

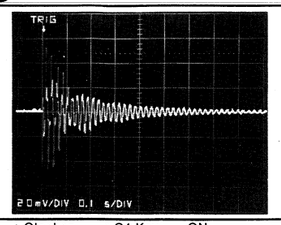


❷



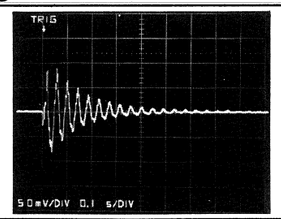
• Vibraphone • C4 Key.....ON
• Sustain.....Step 3

❸



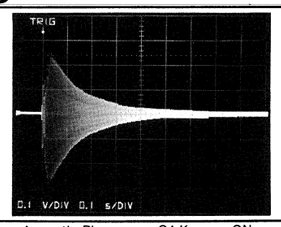
• Glocken • C4 Key.....ON
• Sustain.....Step 3

❹



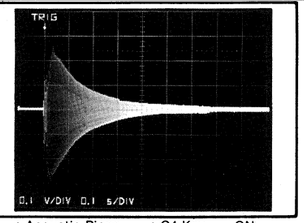
• Acoustic Piano • C4 Key.....ON
• Sustain.....Step 3

❺

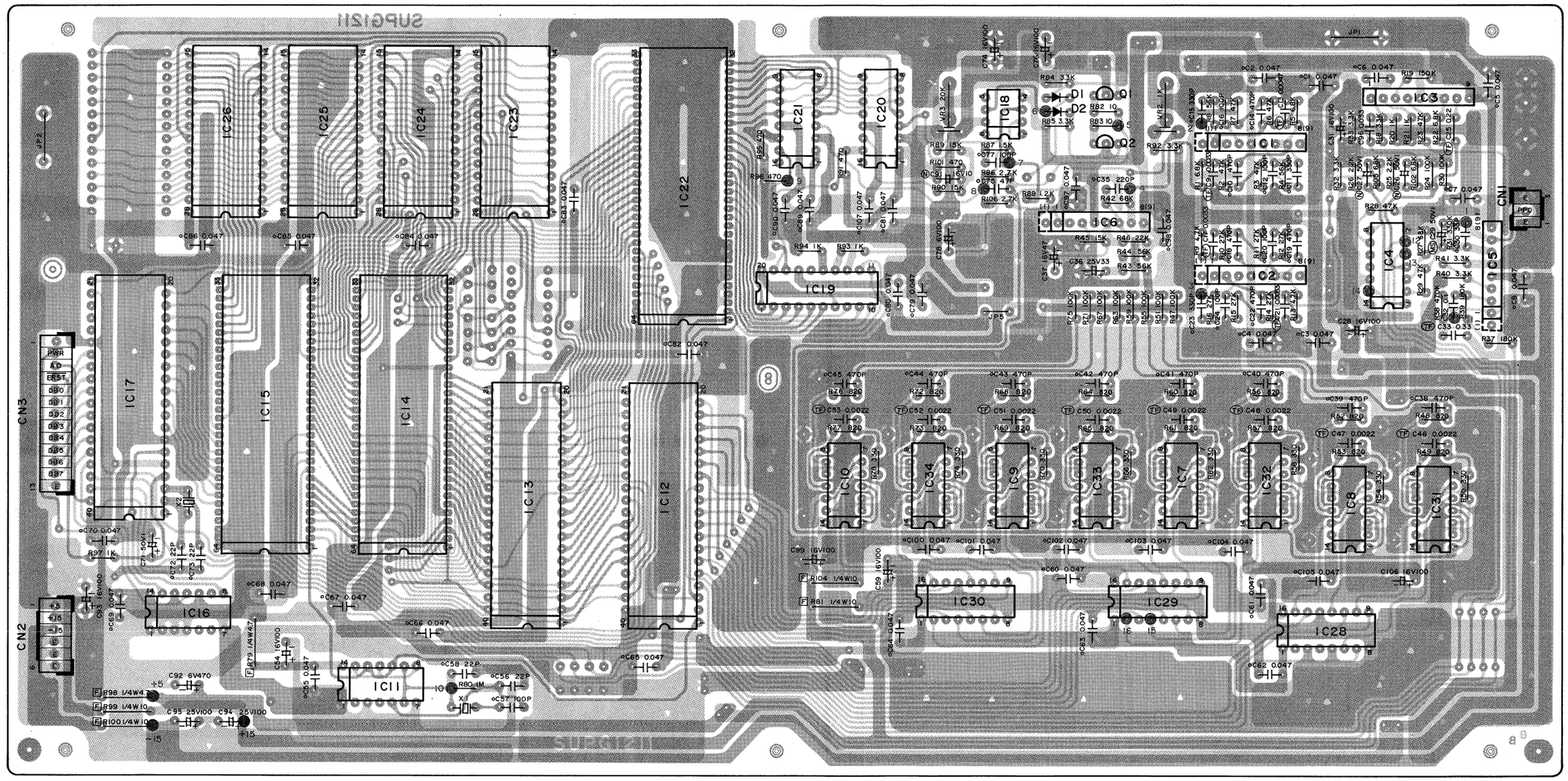


• Acoustic Piano • C4 Key.....ON
• Sustain.....Step 3

❻



• Acoustic Piano • C4 Key.....ON
• Sustain.....Step 3



Circuit view on top of P.C.B.

NOTES:

- IC'S

IC1, 2, 5, 6:	SVIGM5218L
IC3:	SVIGBA6110
IC4:	SVIGUPD4066B
IC7~10, 31~34:	SVIGTC4016BP
IC11:	SVIGTC40H004
IC12:	SVIG65020068
IC13:	SVIG65020067
IC14:	SVIG65040013
IC15:	SVIG65020066
IC16:	SVIGTC40H074
IC17:	SVIG8049-593
IC18:	SVIGUPC357C
IC19:	SVIGBA9221
IC20, 21:	SVIGUPC624C
IC22:	SVIG65020065
IC23:	SVIG3256PE59
IC24:	SVIG3256PE58
IC25:	SVIG3256PE57
IC26:	SVIG3256PE56
IC28~30:	SVIGMC14504B

- TRANSISTORS

Q1:	2SC1815GR
Q2:	2SA1015GR

- DIODES

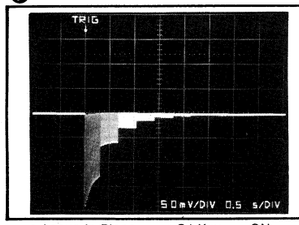
D1, 2:	MA165TA5VT

- QUARTZ & CERAMIC OSCILLATORS

X1:	SVQG43U8000T
X2:	SVQGCSA110MT

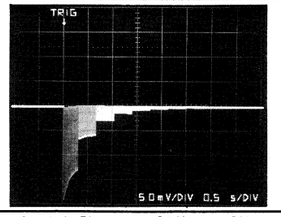
SXPG12112

❼



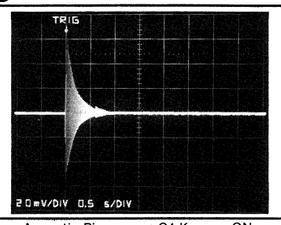
• Acoustic Piano • C4 Key.....ON
• Sustain.....Stop 4

❽



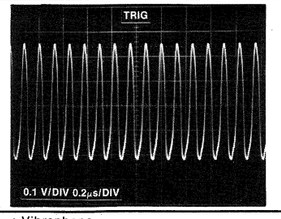
• Acoustic Piano • C4 Key.....ON
• Sustain.....Step 4

❾



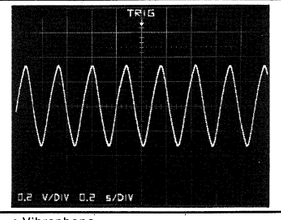
• Acoustic Piano • C4 Key.....ON
• Sustain.....Step 4

❿ 8MHz



• Vibraphone

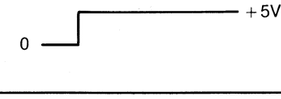
⓫ 4.3Hz



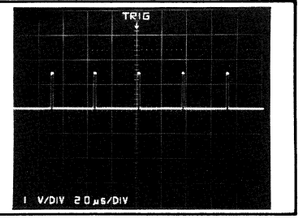
• Vibraphone

⓬, ⓭, ⓮

⓮ : Glocken, Harpsichord
⓭ : Vibraphone
⓬ : Others

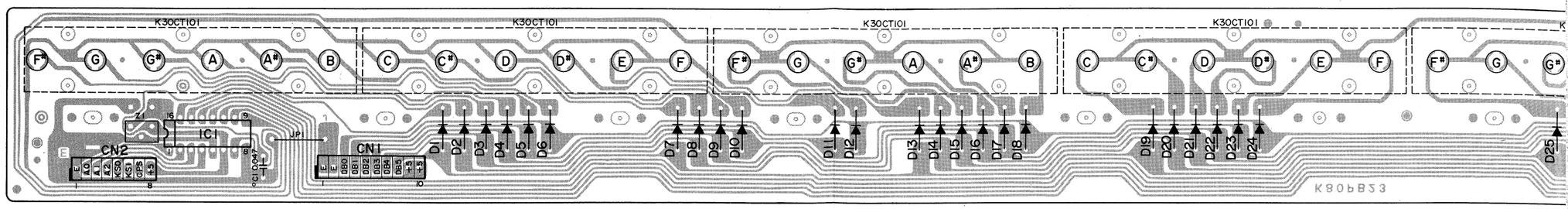


⓯, ⓰



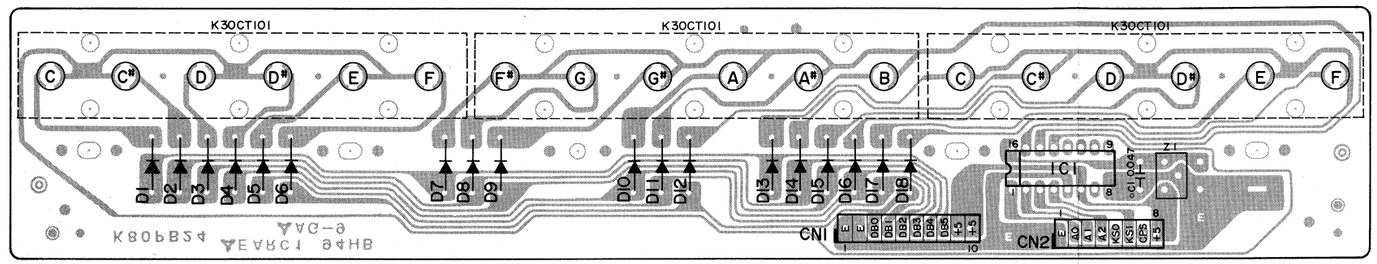
MANUAL KEYBOARD CIRCUIT BOARD (MKB1), (MKB2)

MKB1


K30CT101
K30CT101
K30CT101
K30CT101
F# G G# A A# B C C# D D# E F F# G G# A A# B C C# D D# E F F# G G#
IC1
CN2
CN1
D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D21 D22 D23 D24 D25
K80VBS3

MKB2

K80VPB33


K30CT101
K30CT101
K30CT101
C C# D D# E F F# G G# A A# B C C# D D# E F
D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D17 D18
IC1
CN1
CN2
K80VBS4

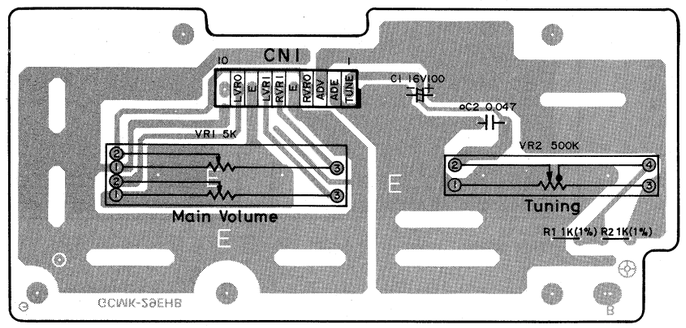
MKB2

NOTES:
- IC
  IC1: SVIGM74LS138
- DIODES
  D1~18: MA150IR
- COMPONENT COMBINATION
  Z1: EXATA223S

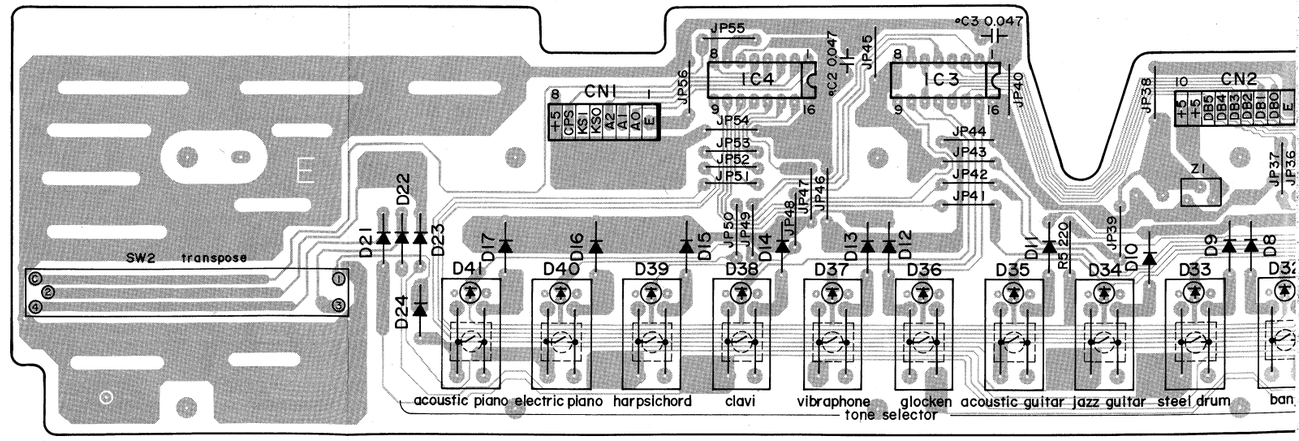
CONTROL PANEL CIRCUIT BOARD (CP1), (CP2)

CP2

SXPG12391



CP1

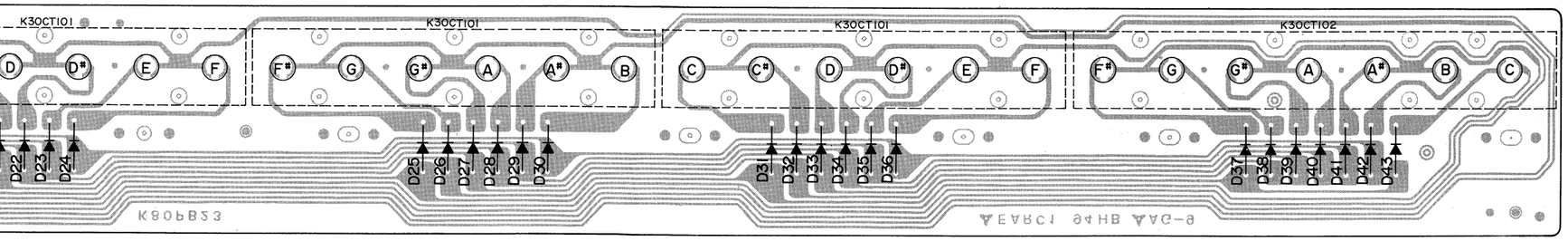


CP1

NOTES:
- IC'S
  IC1~3: SVIGM74LS174
  IC4: SVIGM74LS138
- TRANSISTOR
  Q1: 2SA830B
- DIODES
  D1~24, 42: MA150IR
  D25~41: SWLG30A
- COMPONENT COMBINATION
  Z1: EXATA223S

8 9 10 11 12 13 14

K80VPB32



MKB1

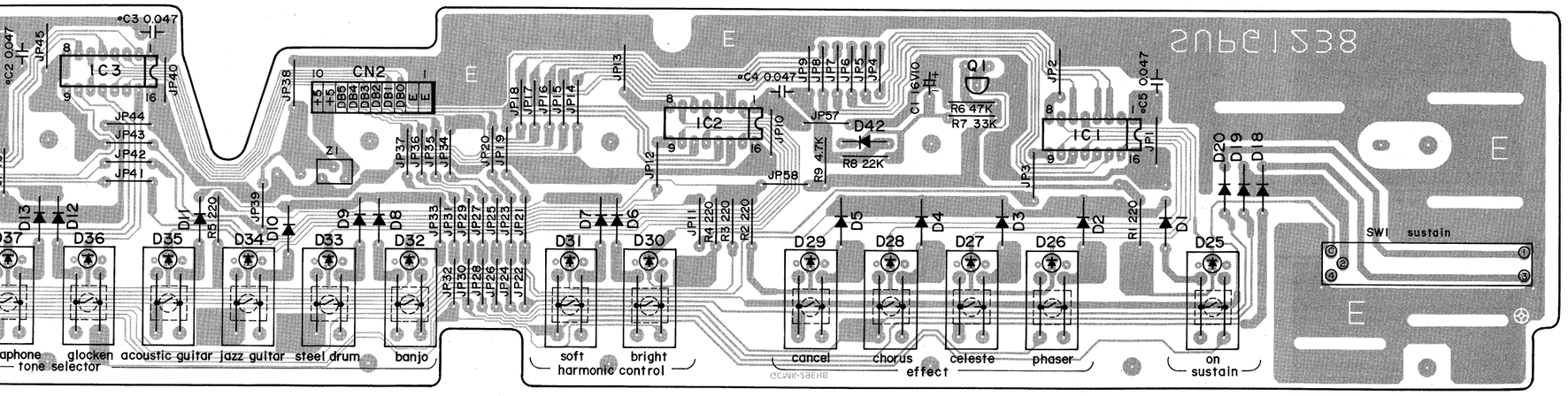
NOTES:

- IC
  IC1: SVIGM74LS138
- DIODES
  D1~43: MA150IR
- COMPONENT COMBINATION
  Z1: EXATA223S

74LS138

IR
OMBINATION
223S

SXPG12381



- DIODES
  D1~24, 42: MA150IR
  D25~41: SWLG30A
- COMPONENT COMBINATION
  Z1: EXATA223S

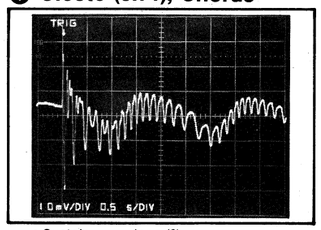
SVIGM74LS174
SVIGM74LS138
OR
2SA830B

MAIN CIRCUIT BOARD (MAIN)

1 2 3 4 5 6 7 8

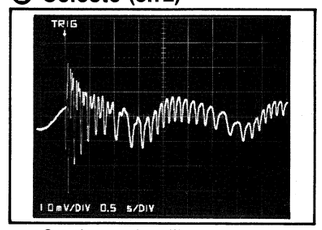
A B C D E F

❶ Cleste (ch 1), Chorus



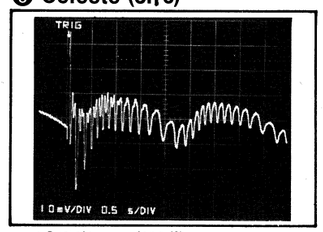
• Sustain.....long (6)

❷ Celeste (ch 2)



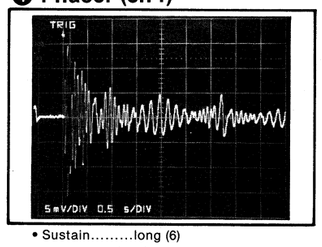
• Sustain.....long (6)

❸ Celeste (ch 3)



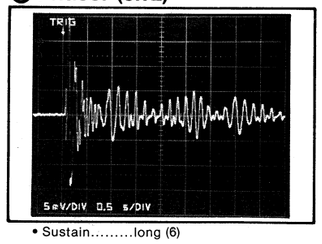
• Sustain.....long (6)

❹ Phaser (ch 1)



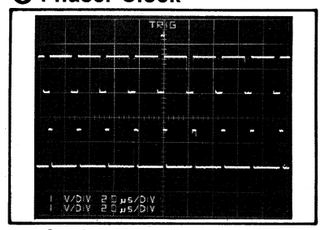
• Sustain.....long (6)

❺ Phaser (ch 2)



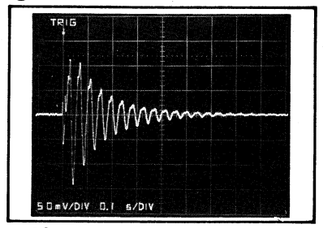
• Sustain.....long (6)

❻ Phaser Clock



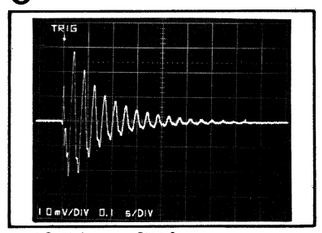
• Sustain.....long (6)

❼



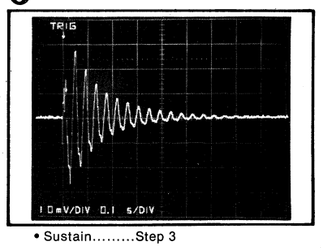
• Sustain.....Step 3

❽



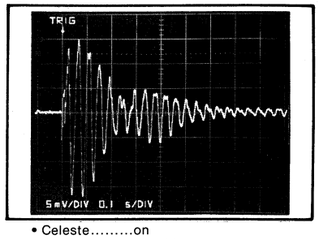
• Sustain.....Step 3

❾



• Sustain.....Step 3

❿



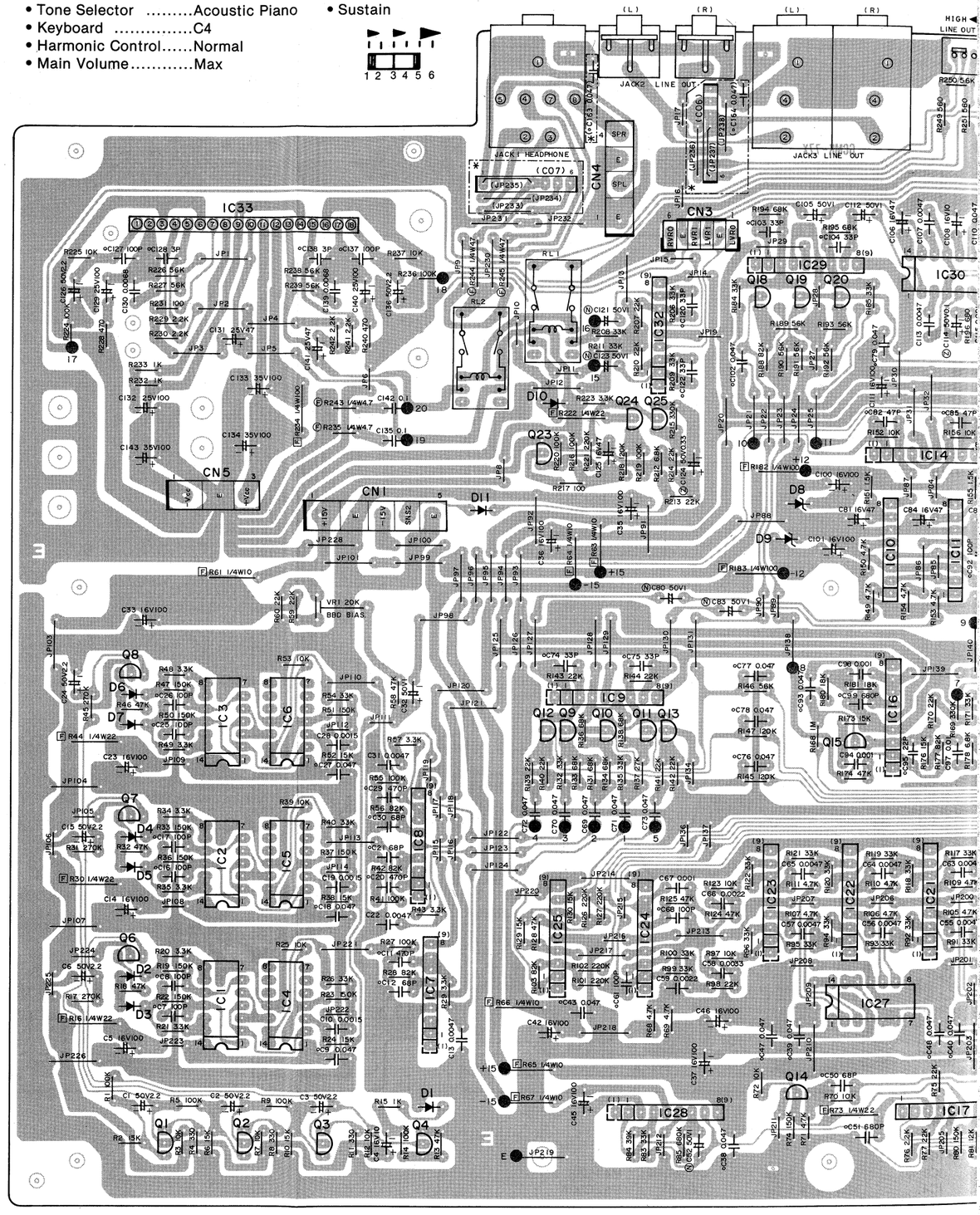
• Celeste.....on
• Sustain.....long (6)

■ Measuring Conditions

• Tone Selector .....Acoustic Piano
• Keyboard C4
• Harmonic Control.....Normal
• Main Volume.....Max
• Sustain

■ Measuring of output waveforms

1. The waveform was measured by "National Digital Strage
waveforms of musical tone signals shown may somewhat cha

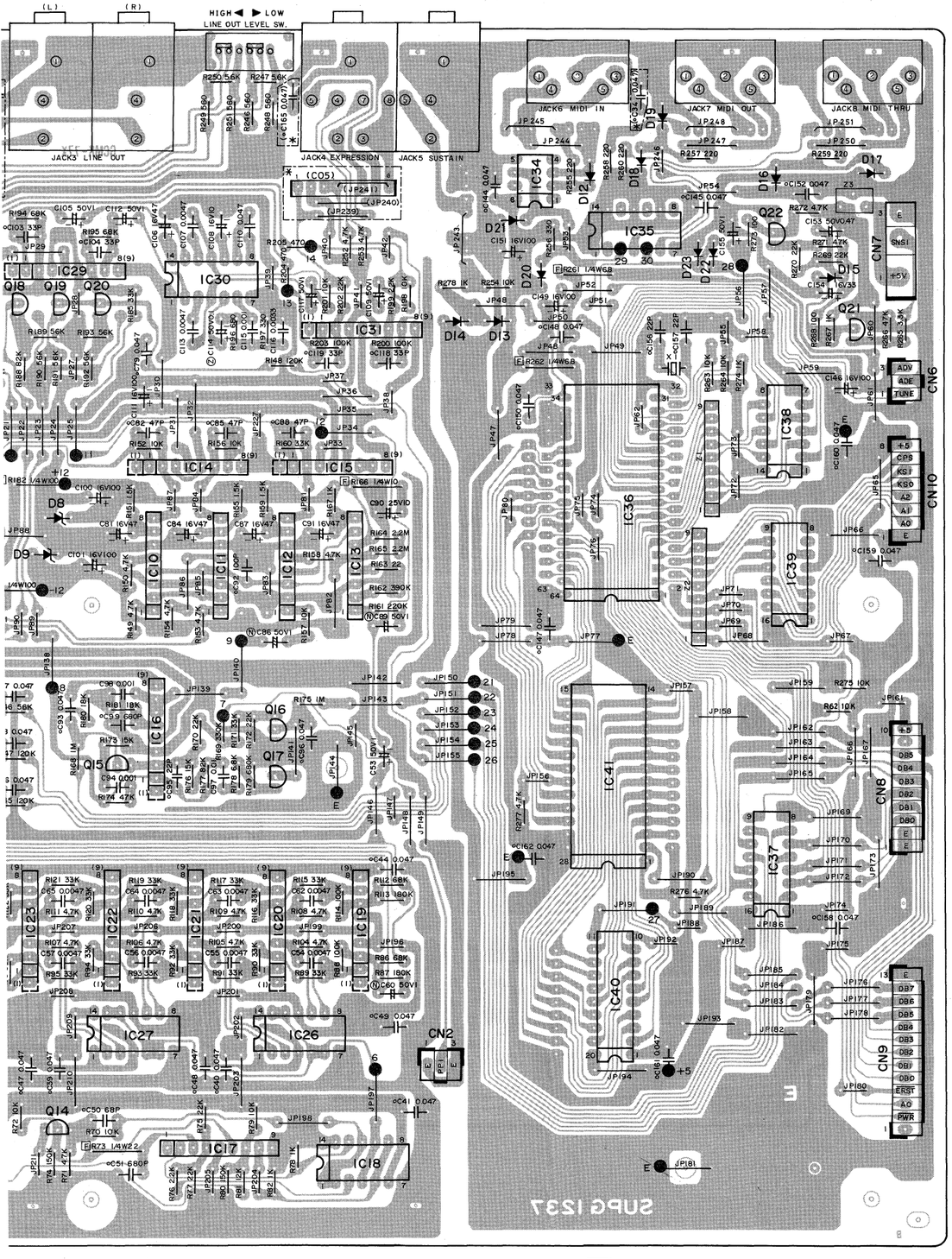


t waveforms

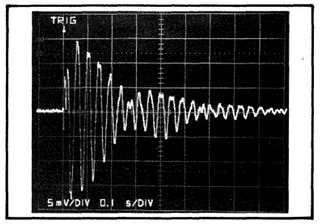
easured by "National Digital Strage Oscilloscope VP-5730A". Therefore the one signals shown may somewhat change due to variation of timing of measure.

2. The voltage shown in the photo is 1/10 of the actual value. However, the actual voltage is 10 times of as shown in this photo.

8 9 10 11 12 13 14

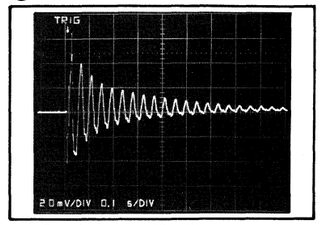


⓫



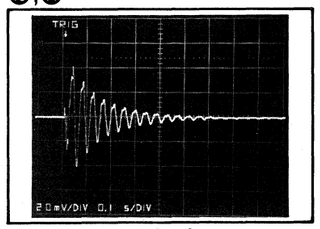
- Celeste .....on
- Sustain .....long (6)

⓬



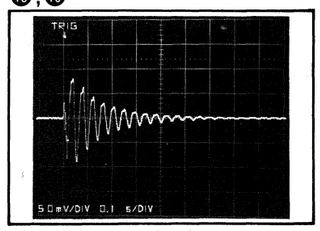
- Sustain .....Step 3

⓭, ⓮



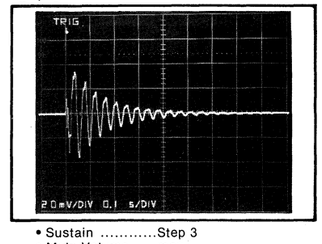
- Sustain .....Step 3

⓯, ⓰



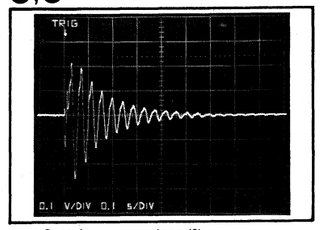
- Sustain .....Step 3
- Main Volume.....max

⓱, ⓲



- Sustain .....Step 3
- Main Volume.....max

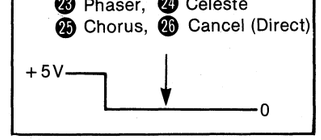
⓳, ⓴



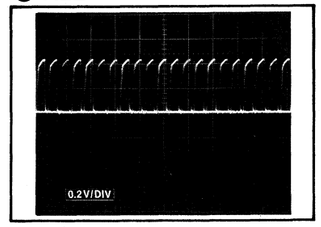
- Sustain .....long (6)
- Main Volume.....max

㉑ ~ ㉖

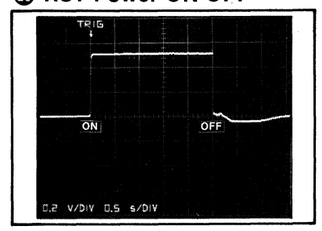
- Harmonic Control
  - ㉑ Soft, ㉒ Bright
- Effector
  - ㉓ Phaser, ㉔ Celeste
  - ㉕ Chorus, ㉖ Cancel (Direct)



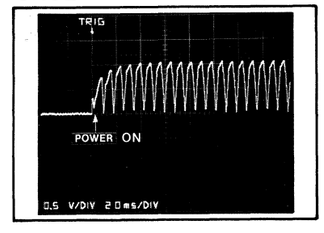
㉗ ALE



㉘ $\overline{\text{RST}}$ Power ON-OFF



SNS2



∗ Product for [EG] only

SXPG12371 **SXPG12372**

SCHEMATIC DIAGRAM (MAIN, DPPS, MKB1, MKB2, CP1, CP2)

■ Important safety notice:

Components identified by ⚠ mark have special characteristics for safety.
When replacing any of these components, use only manufacturer's specified parts.

NOTE:

* The parts enclosed by dots and dashes line are different for different areas.

Tone signal line

Parts Name	
Coil P.C.B. (SXPG12411)	
Jumper Wire	
Capacitor (ECKR1E473ZV)	

SUPGI238 (CP1)

SUPGI239(CP2)

SUPGI237 (MAIN)

SUPGI211 (DPP

K80PB23(MKB1)

K80PB24(MKB2)

Tone Signal Gate

Celeste/chorus Modulation Circuit

Phase Modulation Circuit

Clock Generator

Oscillator

3 phase Oscillator (0.6Hz)

Micro-Computer

Power ON Reset Circuit

Noise Filter

Power Supply

Latch

Decoder

External ROM

Buffer

8bit DAC

Parts Name	Reference No.	Areas	
		Germany	Other Countries
Coil P.C.B. (SXPG12411)	C05, C06, C07	○	×
Jumper Wire	JP233∼JP241	×	○
Capacitor (ECKR1E473ZV)	C34, C163∼165	○	×

○: Used
×: Not used

SUPGI211(DPPS)

Compander Circuit
IC10 Expander
IC11 Expander
IC12 Compressor
IC13 Level Sensor
IC14-1
IC14-2
IC15-1
IC15-2
IC9-1
IC9-2
Phaser
Mixing Amp
IC29-1
IC29-2
Dynamic Noise Reduction (DNR)
IC30
Pre-Amp (R ch)
Pre-Amp (L ch)
IC31-2
IC31-1
Line Out Amp (R ch)
Line Out Amp (L ch)
IC32-2
IC32-1
Chorus
Direct
Relay Driver
Harmonic Control Circuit
IC16-1
IC16-2
Harmonic Control

	Soft	Normal	Bright
Q15	ON	OFF	OFF
Q16,17	OFF	ON	OFF

Power Amp (R ch)
Power Amp (L ch)
IC33-1
IC33-2
Photo Coupler
IC34
IC35-1
IC35-2
Speaker 14cm (Right ch)
Speaker 14cm (Left ch)
JACK 1 Headphone
JACK 2 Line Out
JACK 3 Line Out
Output Level
JACK 4 Expression
JACK 5 Sustain
JACK 6 MIDI IN
JACK 7 MIDI OUT
JACK 8 MIDI THRU
CN1
CN2
CN3
CN4
CN5
Analog Buffer Memory
IC6-1
IC6-2
Low-Pass Filter (fc=8kHz)
IC1-2
IC1-1
IC2-2
IC2-1
IC3 VCA for Vibraphone
IC5-1
IC5-2
Others
Vibraphone
Glocken, Harpsichord
IC4
Oscillator (8MHz)
IC11
Level Shifter (5V→15V)
Data Read Processor(DRP)
Micro-Computer Interface (MCIF)
Note Clock Generator (NCG)
Multiplier (MPY)
Wave Data Processor (WDP)
IC12
IC13
IC14
IC15
IC16
IC17
IC18
IC19
IC20
IC21
IC22
IC23
IC24
IC25
IC26
IC28
IC29
IC30
Micro-Computer
11MHz

MAIN

NOTES:

- IC'S
  - IC1∼3, 18: SVIGMSM4011
  - IC4∼6: MN3004
  - IC7∼9, 14∼16, 19∼25, 28, 29 31, 32: SVIGM5218L
  - IC10∼12: SVIGUPC1252H
  - IC13: SVIGUPC1253H
  - IC17: AN6913
  - IC26, 27: SVIGUPD4066B
  - IC30: SVIGLM1894N
  - IC33: SVIGSTK41212
  - IC34: SVIGTLP552
  - IC35: SVIGH7417
  - IC36: SVIG7811G028
  - IC37: SVIGHD14174B
  - IC38: MN4069UB
  - IC39: SVIGM74LS138
  - IC40: SVIGM74LS373
  - IC41: SVIGM2364180
- TRANSISTORS
  - Q1∼4, 6∼8, 14, 21, 22: 2SC2320LFG
  - Q9∼13, 15∼20: 2SJ40CD
  - Q23∼25: 2SC2062C
- DIODES
  - D1∼7, 10∼23: MA165TA5VT
  - D8, 9: MA1120M
- QUARTZ OSCILLATOR
  - X1: SVQG43U1200A
- COMPONENT COMBINATIONS
  - Z1: EXBP88103MM
  - Z2: EXBP88472MM
  - Z3: EXATA223S
- RELAYS
  - RL1, 2: SSYGMR5212S

DPPS

NOTES:

- IC'S
  - IC1, 2, 5, 6: SVIGM5218L
  - IC3: SVIGBA6110
  - IC4: SVIGUPD4066B
  - IC7∼10, 31∼34: SVIGTC4016BP
  - IC11: SVIGTC40H004
  - IC12: SVIG65020068
  - IC13: SVIG65020067
  - IC14: SVIG65040013
  - IC15: SVIG65020066
  - IC16: SVIGTC40H074
  - IC17: SVIG8049-593
  - IC18: SVIGUPC357C
  - IC19: SVIGBA9221
  - IC20, 21: SVIGUPC624C
  - IC22: SVIG65020065
  - IC23: SVIG3256PE59
  - IC24: SVIG3256PE58
  - IC25: SVIG3256PE57
  - IC26: SVIG3256PE56
  - IC28∼30: SVIGMC14504B
- TRANSISTORS
  - Q1: 2SC1815GR
  - Q2: 2SA1015GR
- DIODES
  - D1, 2: MA165TA5VT
- QUARTZ & CERAMIC OSCILLATORS
  - X1: SVQG43U8000T
  - X2: SVQGCSA110MT

CP1

NOTES:

- IC'S
  - IC1∼3: SVIGM74LS174
  - IC4: SVIGM74LS138
- TRANSISTOR
  - Q1: 2SA830B
- DIODES
  - D1∼24, 42: MA150IR
  - D25∼41: SWLG30A
- COMPONENT COMBINATION
  - Z1: EXATA223S

MKB1

NOTES:

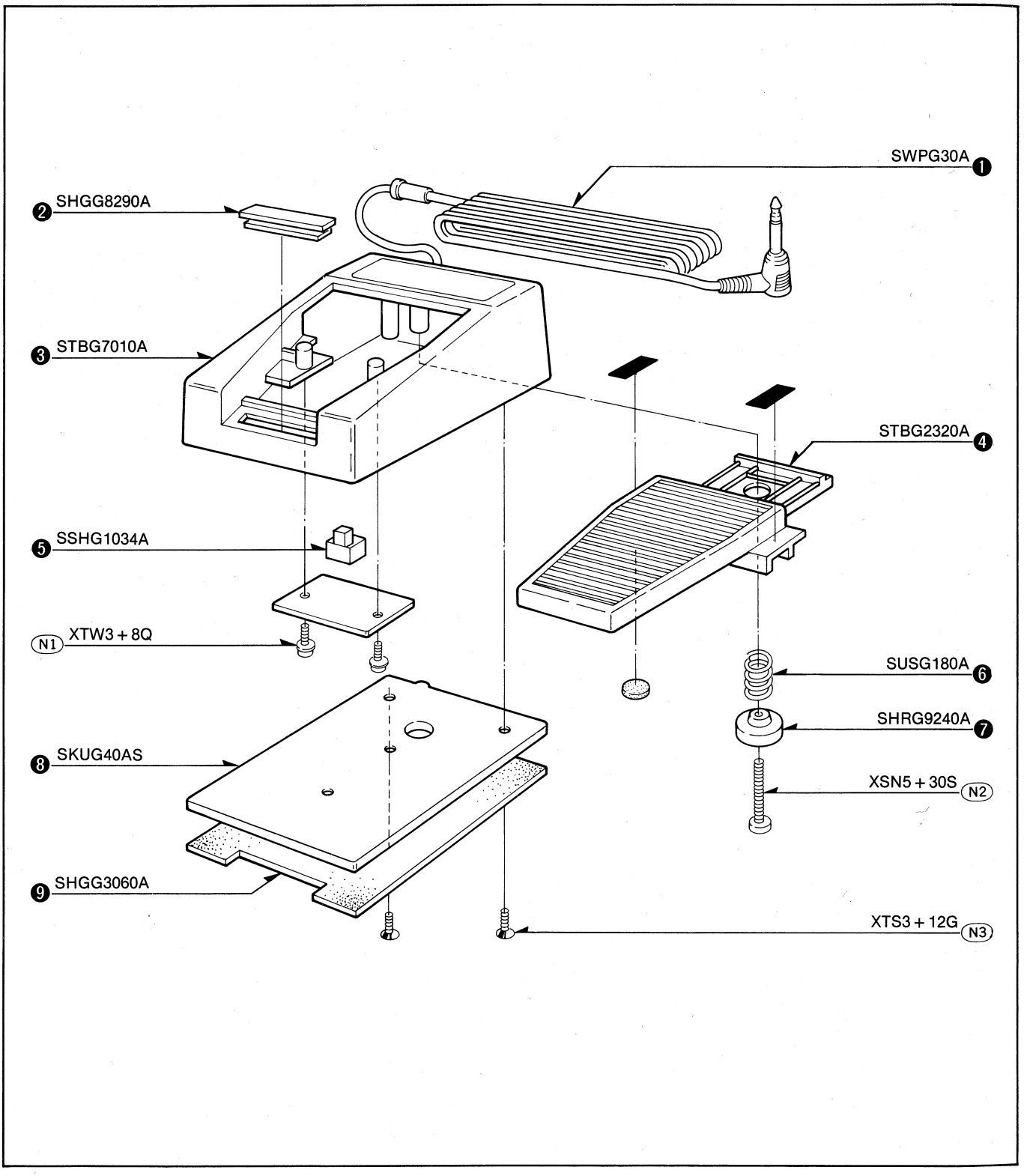
- IC
  - IC1: SVIGM74LS138
- DIODES
  - D1∼43: MA150IR
- COMPONENT COMBINATION
  - Z1: EXATA223S

MKB2

NOTES:

- IC
  - IC1: SVIGM74LS138
- DIODES
  - D1∼18: MA150IR
- COMPONENT COMBINATION
  - Z1: EXATA223S

EXPLODED VIEWS OF SUSTAIN PEDAL

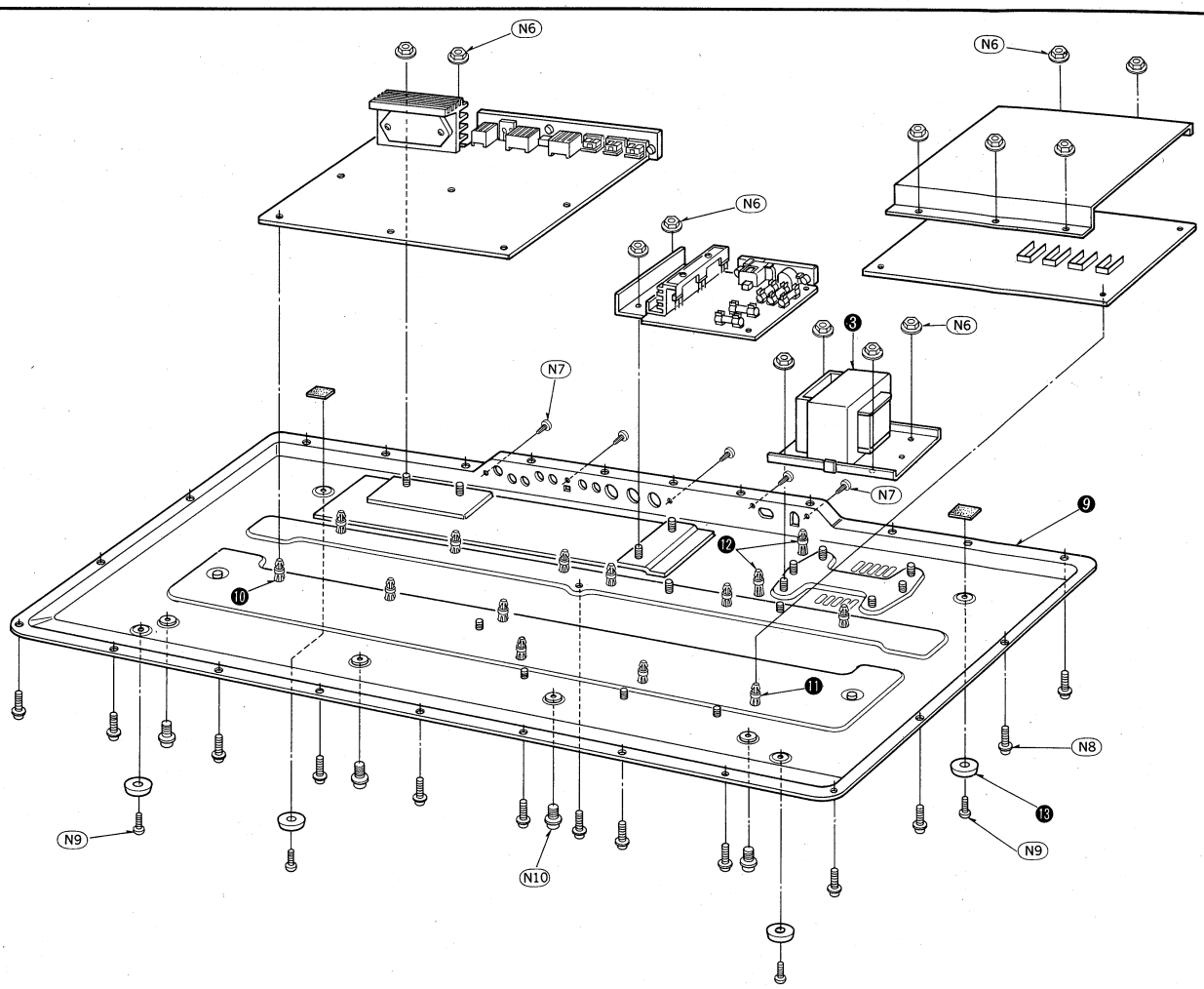


■ REPLACEMENT PARTS LIST

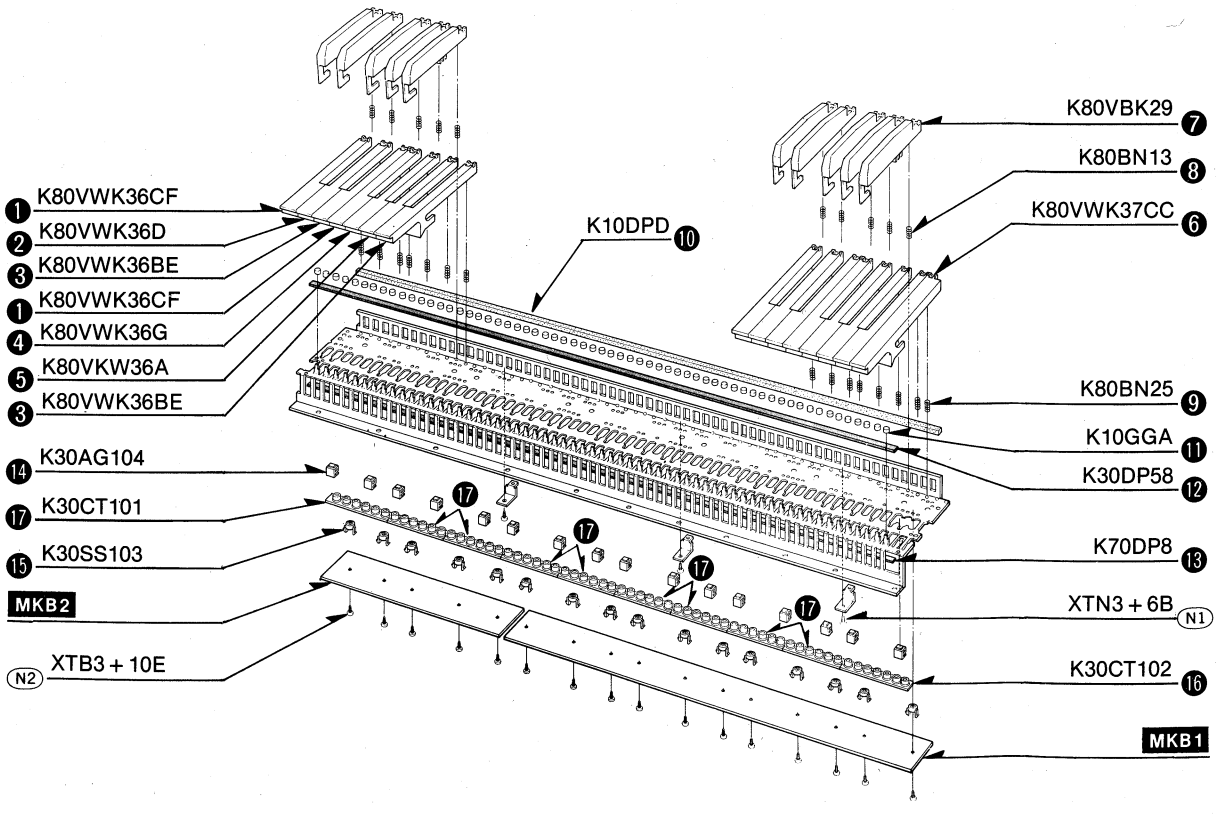
O New Parts

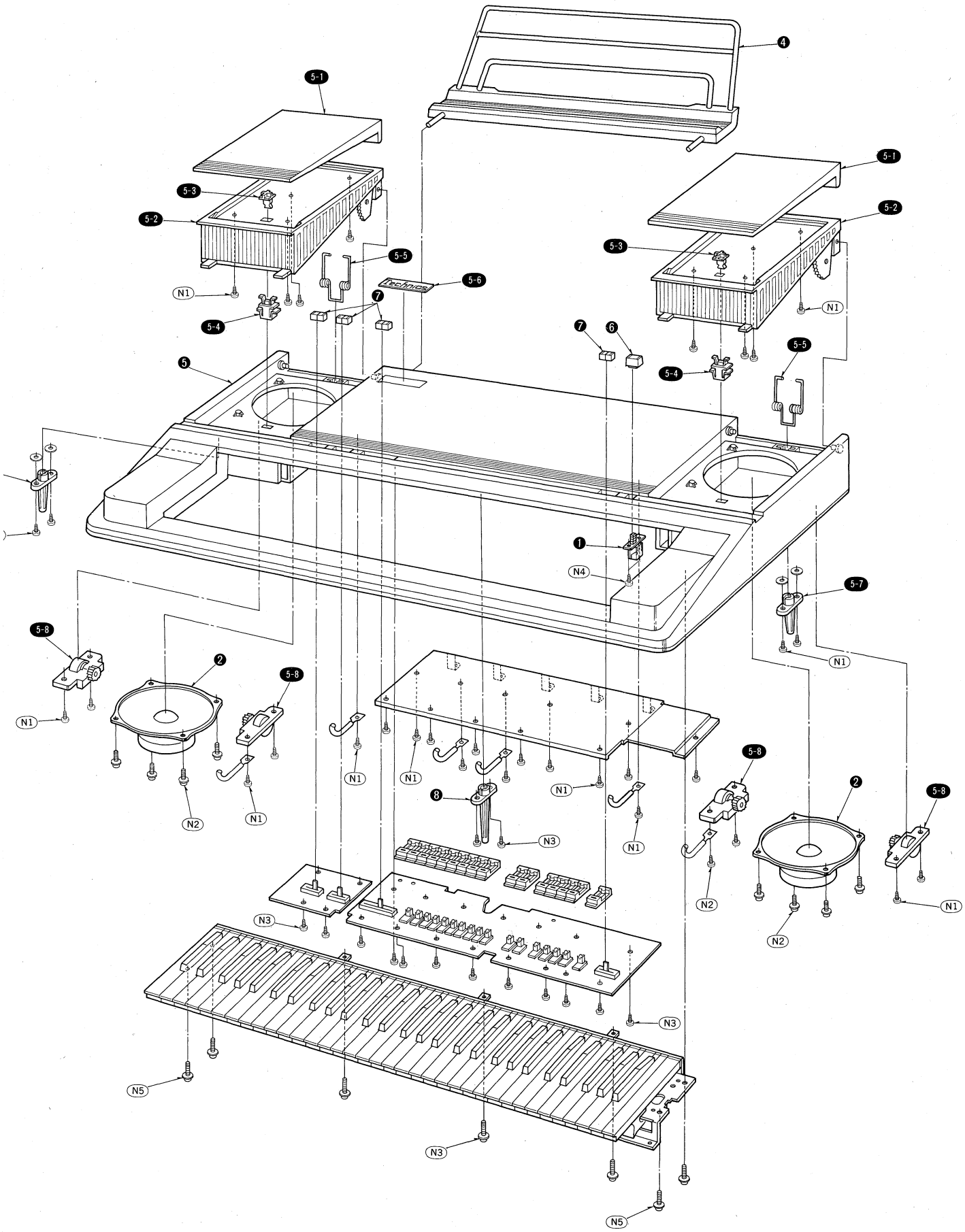
	Ref. No.	Part No.	Description	Per/Set
O		STKG24A81S	Sustain Pedal Assembly	1
O	1	SWPG30A	Connection Cord, with Plug	1
O	2	SHGG8290A	Pedal Stopper	1
O	3	STBG7010A	Pedal Case	1
O	4	STBG2320A	Pedal	1
	5	SSHG1034A	Push Switch	1
	6	SUSG180A	Spring	1
	7	SHRG9240A	Spacer	1
O	8	SKUG40AS	Bottom Plate	1
O	9	SHGG3060A	Cushion	1
	N1	XTW3+8Q	Screw	2
	N2	XSN5+30S	Bolt	1
	N3	XTS3+12G	Screw	2

EXPLODED VIEWS OF CABINET



■ KEYBOARD




4
5-1
5-3
5-2
5-5
5-6
N1
5-4
7
6
5
1
N4
5-7
5-8
2
N2
8
N3
N5

REPLACEMENT PARTS LIST

Notes:

1. Printed circuit boards are supplied only during the period of production.
2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The "S" mark is service standard parts and may differ from production parts.
4. O mark are new parts.
5. For part No. with area mark, check the area when placing an order.

■ CABINET AND CHASSIS PARTS

	Ref. No.		Part No.	Description	Per/Set
			SWITCH		
	1	⚠	ESB8213V	Power Switch	1
			SPEAKER		
O	2		EAS14P48S	Monitor Speaker, 14cm 8Ω	2
			TRANSFORMERS		
O	3	⚠	SLTG5M9	Power Transformer	1
O	3 MC	⚠	SLTG5M10	Power Transformer	1
			CABINET PARTS		
O	4		SKGG1J30A	Music Ruck	1
O	5		SKAG780A	Cabinet Assembly	1
O	5-1		SKEG7420A	Top Cover, for Speaker Grille	2
O	5-2		SGWG6050A	Speaker Grille	2
O	5-3		SBEG160A	Hook	2
O	5-4		SBEG150A	Push Catch	2
O	5-5		SUSG350A	Spring, for Speaker Grille	2
O	5-6		SGBG110A	Technics Badge	1
O	5-7		SHRG9550A	Spacer	2
O	5-8		SBEG170A	Oil Dumper	4
O	6		SBCG180A	Button, Power Switch	1
O	7		SBNG7020A	Knob, Slide Volume	4
O	8		SHRG9560A	Spacer	1
O	9		SKUG60A	Bottom Plate	1
O	9 MC		SKUG61A	Bottom Plate	1
	10		SHRG9490A	P.C.B. Holder	6
O	11		SHRG9580A	P.C.B. Holder	6
O	12		SHRG9530A	P.C.B. Holder	2
	13		QKA1076	Foot	4
			SCREWS and WASHERS		
	N1		XTB3+10GFZ	Screw	35
	N2		XTWSG2	Screw	8
	N3		XTV3+10G	Screw	24
	N4		SNEG740A	Screw	2
	N5		XTW3+12G	Screw	4
	N6		SNE499-1	Nut	13
	N7		XTV3+10GFZ	Screw	5
	N8		XTW3+10QFVC	Screw	25
	N9		XTB3+6BFZ	Screw	4
	N10		XYN5+F10FVCS	Screw, with Washer	4

■ KEYBOARD PARTS

	Ref. No.	Part No.	Description	Per/Set
O	1	K80VWK36CF	Natural Key (C and F Key)	10
O	2	K80VWK36D	Natural Key (D Key)	5
O	3	K80VWK36BE	Natural Key (B and E Key)	10
O	4	K80VWK36G	Natural Key (G Key)	5
O	5	K80VWK36A	Natural Key (A Key)	5
O	6	K80VWK37CC	Natural Key (Top Octave C Key)	1
O	7	K80VBK29	Sharp Key	25
O	8	K80BN13	Spring, for Sharp Key	25
O	9	K80BN25	Spring, for Natural Key	36
O	10	K10DPD	Dumper	1
	11	K10GGA	Key Guide Rubber	61
O	12	K30DP58	Felt	1
O	13	K70DP8	Felt	1
	14	K30AG104	P.C.B. Holder	16
	15	K30SS103	Spacer	16
	16	K30CT102	Rubber Switch (7 continuous)	1
	17	K30CT101	Rubber Switch (6 continuous)	9
	N1	XTN3+6B	Screw	3
	N2	XTB3+10E	Screw	16

■ ACCESSORIES

	Ref. No.		Part No.	Description	Per/Set
O			STKG24A81S	Sustain Pedal	1
O			SQCG80A	Dust Cover	1
		⚠	SJAG41	AC Cord	1
	EK XS	⚠	SJAG39	AC Cord	1
	MC	⚠	SJAG38	AC Cord	1
	XL XR	⚠	SJAG40	AC Cord	1
	XT X XX XV	⚠	SJP5213-1	Attachment Plug	1
O	EN ES ED EL		SQFG1550	Instruction Book	1
O			SQFG1570	Instruction Book	1

■ PRINTED CIRCUIT BOARDS

	Ref. No.	Part No.	Description	Per/Set
O		SXPG12371	Main (MAIN)	1
O	EG	SXPG12372	Main (MAIN)	1
O		SXPG12112	Digital Percussive Presets (DPPS)	1
O		SXPG12381	Control Panel 1 (CP1)	1
O		SXPG12391	Control Panel 2 (CP2)	1
O		K80VPB32	Manual Keyboard 1 (MKB1)	1
O		K80VPB33	Manual Keyboard 2 (MKB2)	1
O		SXPG12421	Power Supply (PS)	1
O	MC	SXPG12461	Power Supply (PS)	1

■ Numbering System of Resistor

Resistor Type	Wattage	Tolerance
ERD : Carbon	S2 : 1/4W	F : ±1%
ERD—F : Carbon Flame-Proof	2 : 1/4W	G : ±2%
ERO : Metal Film	10 : 1/8W	J : ±5%
	25 : 1/4W	

Example

Type	Wattage	Shape	Tolerance	Value
ERD	S2	T	J	101

Type	Wattage	Flame Proof	Fuse Type	Tolerance	Value
ERD	2	F	C	G	101

Type	Wattage	Shape	Peculiarity use	Tolerance	Value
ERO	10	T	K	F	1001

■ Numbering System of Capacitor

Capacitor Type	Symbol Mark	Voltage		Tolerance
		ECEA Type	Others	
ECEA (T) : Electrolytic		0J : 6.3V	1H : 50V	ECEA Type : ±20%
ECEA—N : Non-Polar Electrolytic	Ⓝ	1C : 16V	1E : 25V	J : ±5%
ECEA—M : Electrolytic, MSR Series	Ⓜ	1E : 25V	50 : 50V	K : ±10%
ECEA—Z : Electrolytic, Z Series	Ⓩ	1V : 35V		M : ±20%
ECQV : TF Capacitor	Ⓣ	1H : 50V		Z : +80% −20%
ECQM : Polyester		50M : 50V		
ECC : Ceramic	○	50Z : 50V		
ECK : Ceramic	○			

Example

Type	Voltage	Peculiarity use	Value	
ECEA	0J	U	330	
ECEA (T)	50	M (Z)	R47	R
ECQV (M)	1H	102	J	
ECC (K)	R	1H	220	J
Type	Shape	Voltage	Value	Tolerance

■ MAIN CIRCUIT (MAIN)

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1∼3, 18	SVIGMSM4011	Quadruple 2-Input NAND Gates	4
	IC4∼6	MN3004	BBD for Audio Signal Delays (512-stage)	3
	IC7∼9, 14∼16, 19∼25, 28, 29, 31, 32	SVIGM5218L	Operational Amplifier	17
	IC10∼12	SVIGUPC1252H	VCA, for NR System	3
	IC13	SVIGUPC1253H	RMS Level Censor, for NR System	1
	IC17	AN6913	Dual Comparator	1
	IC26, 27	SVIGUPD4066B	Quadruple Bilateral Switch	2
	IC30	SVIGLM1894N	Noise Reduction	1
○	IC33	SVIGSTK41212	Power Amplifier	1
○	IC34	SVIGTLP552	Photo Coupler	1
	IC35	SVIGH7417	Hex Buffer	1
	IC36	SVIG7811G028	1 Chip, 8 Bit Microcomputer	1
	IC37	SVIGHD14174B	Hex D-Type Flip-Flops	1
○	IC38	MN4069UB	Hex Inverter	1
	IC39	SVIGM74LS138	Decoder	1
○	IC40	SVIGM74LS373	Octal D-Type Latch	1
○	IC41	SVIGM2364180	64K Bit Mask Programmable ROM	1
	TRANSISTORS			
	Q1∼4, 6∼8, 14, 21, 22	2SC2320LFG		10
	Q9∼13, 15∼20	2SJ40CD	FET	11
	Q23∼25	2SC2062C		3
	DIODES			
	D1∼7, 10∼23	MA165TA5VT		21
	D8, 9	MA1120M		2
	QUARTZ OSCILLATOR			
	X1	SVQG43U1200A	12MHz, Quartz Oscillator	1
	COILS			
○	C05∼7 EG	SXPG12411	Coil P.C.B.	3

	Ref. No.	Part No.	Description	Per/Set
	SWITCH			
○	SW1	SSSG2002A	Line Out Level Selector	1
	SEMI-FIXED RESISTOR			
	VR1	EVNG0E01B24A	20KΩ	1
	COMPONENT COMBINATIONS			
	Z1	EXBP88103MM	10KΩ×8, Block Resistor	1
	Z2	EXBP88472MM	4.7K×8, Block Resistor	1
	Z3	EXATA223S	Noise Suppression Filter	1
	JACKS			
○	J1, 4	SJJG290A	Head Phone Jack, Expression Jack	2
○	J2	SJFG120A	Line Out Pin Jack	1
○	J3	SJJG280A	Line Out Jack	1
○	J5	SJJG300A	Sustain Jack	1
○	J6∼8	SJSG1370A	MIDI Jack	3
	RELAYS			
	RL1, 2	SSYGMR5212S	Relay	2
	RESISTORS			
	R1	ERDS2TJ104	100KΩ	1
	R2	ERDS2TJ153	15KΩ	1
	R3	ERDS2TJ103	10KΩ	1
	R4	ERDS2TJ331	330Ω	1
	R5	ERDS2TJ104	100KΩ	1
	R6	ERDS2TJ153	15KΩ	1
	R7	ERDS2TJ103	10KΩ	1
	R8	ERDS2TJ331	330Ω	1
	R9	ERDS2TJ104	100KΩ	1
	R10	ERDS2TJ153	15KΩ	1
	R11	ERDS2TJ331	330Ω	1
	R12	ERDS2TJ103	10KΩ	1
	R13	ERDS2TJ473	47KΩ	1
	R14	ERDS2TJ104	100KΩ	1
	R15	ERDS2TJ102	1KΩ	1
	F R16 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1

Ref. No.	Part No.	Description	Per/Set
R17	ERDS2TJ274	270KΩ	1
R18	ERDS2TJ473	47KΩ	1
R19	ERDS2TJ154	150KΩ	1
R20, 21	ERDS2TJ332	3.3KΩ	2
R22, 23	ERDS2TJ154	150KΩ	2
R24	ERDS2TJ153	15KΩ	1
R25	ERDS2TJ103	10KΩ	1
R26	ERDS2TJ333	33KΩ	1
R27	ERDS2TJ104	100KΩ	1
R28	ERDS2TJ823	82KΩ	1
R29	ERDS2TJ332	3.3KΩ	1
[F]R30 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R31	ERDS2TJ274	270KΩ	1
R32	ERDS2TJ473	43KΩ	1
R33	ERDS2TJ154	150KΩ	1
R34, 35	ERDS2TJ332	3.3KΩ	2
R36, 37	ERDS2TJ154	150KΩ	2
R38	ERDS2TJ153	15KΩ	1
R39	ERDS2TJ103	10KΩ	1
R40	ERDS2TJ333	33KΩ	1
R41	ERDS2TJ104	100KΩ	1
R42	ERDS2TJ823	82KΩ	1
R43	ERDS2TJ332	3.3KΩ	1
[F]R44 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R45	ERDS2TJ274	270KΩ	1
R46	ERDS2TJ473	47KΩ	1
R47	ERDS2TJ154	150KΩ	1
R48, 49	ERDS2TJ332	3.3KΩ	2
R50, 51	ERDS2TJ154	150KΩ	2
R52	ERDS2TJ153	15KΩ	1
R53	ERDS2TJ103	10KΩ	1
R54	ERDS2TJ333	33KΩ	1
R55	ERDS2TJ104	100KΩ	1
R56	ERDS2TJ823	82KΩ	1
R57	ERDS2TJ332	3.3KΩ	1
R58	ERDS2TJ473	47KΩ	1
R59, 60	ERDS2TJ223	22K	2
[F]R61 ⚠	ERD2FCG100	10Ω, 1/4W, Fuse Type	1
R62	ERDS2TJ103	10KΩ	1
[F]R63~67 ⚠	ERD2FCG100	10Ω, 1/4W, Fuse Type	5
R68, 69	ERDS2TJ472	4.7KΩ	2
R70	ERDS2TJ103	10KΩ	1
R71	ERDS2TJ472	4.7KΩ	1
R72	ERDS2TJ103	10KΩ	1
[F]R73 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R74	ERDS2TJ154	150KΩ	1
R75	ERDS2TJ223	22KΩ	1
R76	ERDS2TJ222	2.2KΩ	1
R77	ERDS2TJ223	22KΩ	1
R78	ERDS2TJ102	1KΩ	1
R79	ERDS2TJ103	10KΩ	1
R80	ERDS2TJ154	150KΩ	1
R81	ERDS2TJ123	12KΩ	1
R82	ERDS2TJ102	1KΩ	1
R83	ERDS2TJ333	33KΩ	1
R84	ERDS2TJ393	39KΩ	1
R85	ERDS2TJ684	680KΩ	1
R86	ERDS2TJ683	68KΩ	1
R87	ERDS2TJ184	180KΩ	1
R88	ERDS2TJ104	100KΩ	1
R89~96	ERDS2TJ333	33KΩ	8

Ref. No.	Part No.	Description	Per/Set
R97	ERDS2TJ103	10KΩ	1
R98	ERDS2TJ223	22KΩ	1
R99, 100	ERDS2TJ333	33KΩ	2
R101, 102	ERDS2TJ224	220KΩ	2
R103	ERDS2TJ823	82KΩ	1
R104~111	ERDS2TJ472	4.7KΩ	8
R112	ERDS2TJ683	68KΩ	1
R113	ERDS2TJ184	180KΩ	1
R114	ERDS2TJ104	100KΩ	1
R115~122	ERDS2TJ333	33KΩ	8
R123	ERDS2TJ103	10KΩ	1
R124, 125	ERDS2TJ473	47KΩ	2
R126, 127	ERDS2TJ224	220KΩ	2
R128	ERDS2TJ473	47KΩ	1
R129, 130	ERDS2TJ153	15KΩ	2
R131	ERDS2TJ683	68KΩ	1
R132	ERDS2TJ333	33KΩ	1
R133, 134	ERDS2TJ683	68KΩ	2
R135	ERDS2TJ333	33KΩ	1
R136	ERDS2TJ683	68KΩ	1
R137	ERDS2TJ273	27KΩ	1
R138	ERDS2TJ683	68KΩ	1
R139	ERDS2TJ333	33KΩ	1
R140	ERDS2TJ223	22KΩ	1
R141	ERDS2TJ333	33KΩ	1
R142~144	ERDS2TJ223	22KΩ	3
R145	ERDS2TJ124	120KΩ	1
R146	ERDS2TJ563	56KΩ	1
R147, 148	ERDS2TJ124	120KΩ	2
R149, 150	ERDS2TJ472	4.7KΩ	2
R151	ERDS2TJ152	1.5KΩ	1
R152	ERDS2TJ103	100KΩ	1
R153, 154	ERDS2TJ472	4.7KΩ	2
R155	ERDS2TJ152	1.5KΩ	1
R156, 157	ERDS2TJ103	10KΩ	2
R158	ERDS2TJ472	4.7KΩ	1
R159	ERDS2TJ152	1.5KΩ	1
R160	ERDS2TJ332	3.3KΩ	1
R161	ERDS2TJ224	220KΩ	1
R162	ERDS2TJ394	390KΩ	1
R163	ERDS2TJ220	22Ω	1
R164, 165	ERDS2TJ225	2.2MΩ	2
[F]R166 ⚠	ERD2FCG100	10Ω, 1/4W, Fuse Type	1
R167	ERDS2TJ102	1KΩ	1
R168	ERDS2TJ105	1MΩ	1
R169	ERDS2TJ334	330KΩ	1
R170	ERDS2TJ223	22KΩ	1
R171	ERDS2TJ333	33KΩ	1
R172	ERDS2TJ223	22KΩ	1
R173	ERDS2TJ153	15KΩ	1
R174	ERDS2TJ473	47KΩ	1
R175	ERDS2TJ105	1MΩ	1
R176	ERDS2TJ153	15KΩ	1
R177	ERDS2TJ823	82KΩ	1
R178	ERDS2TJ682	6.8KΩ	1
R179	ERDS2TJ684	680KΩ	1
R180, 181	ERDS2TJ183	18KΩ	2
[F]R182, 183 ⚠	ERD2FCG101	100Ω, 1/4W, Fuse Type	2
R184, 185	ERDS2TJ333	33KΩ	2
R188	ERDS2TJ823	82KΩ	1
R189~193	ERDS2TJ563	56KΩ	5

Ref. No.	Part No.	Description	Per/Set
R194, 195	ERDS2TJ683	68KΩ	2
R196	ERDS2TJ681	680Ω	1
R197	ERDS2TJ331	330Ω	1
R198	ERDS2TJ103	10KΩ	1
R199	ERDS2TJ223	22KΩ	1
R200	ERDS2TJ104	100KΩ	1
R201	ERDS2TJ103	10KΩ	1
R202	ERDS2TJ223	22KΩ	1
R203	ERDS2TJ104	100KΩ	1
R204, 205	ERDS2TJ471	470Ω	2
R206	ERDS2TJ333	33KΩ	1
R207	ERDS2TJ223	22KΩ	1
R208, 209	ERDS2TJ333	33KΩ	2
R210	ERDS2TJ223	22KΩ	1
R211	ERDS2TJ333	33KΩ	1
R212	ERDS2TJ682	6.8KΩ	1
R213, 214	ERDS2TJ223	22KΩ	2
R215	ERDS2TJ334	330KΩ	1
R216	ERDS2TJ104	100KΩ	1
R217	ERDS2TJ101	100Ω	1
R218	ERDS2TJ124	120KΩ	1
R219, 220	ERDS2TJ104	100KΩ	2
R221	ERDS2TJ224	220KΩ	1
Ⓕ R222 ⚠	ERD2FCG220	22Ω, 1/4W, Fuse Type	1
R223	ERDS2TJ332	3.3KΩ	1
R224	ERDS2TJ104	100KΩ	1
R225	ERDS2TJ103	10KΩ	1
R226, 227	ERDS2TJ563	56KΩ	2
R228	ERDS2TJ471	470Ω	1
R229, 230	ERDS2TJ222	2.2KΩ	2
R231	ERDS2TJ101	100Ω	1
R232, 233	ERDS2TJ102	1KΩ	2
Ⓕ R234 ⚠	ERD2FCG101	100Ω, 1/4W, Fuse Type	1
Ⓕ R235 ⚠	ERD25FVJ4R7	4.7Ω, 1/4W	1
R236	ERDS2TJ104	100KΩ	1
R237	ERDS2TJ103	10KΩ	1
R238, 239	ERDS2TJ563	56KΩ	2
R240	ERDS2TJ471	470Ω	1
R241, 242	ERDS2TJ222	2.2KΩ	2
Ⓕ R243 ⚠	ERD25FVJ4R7	4.7Ω, 1/4W	1
Ⓕ R244, 245 ⚠	ERD25FVJ470	47Ω, 1/4W	2
R246	ERDS2TJ561	560Ω	1
R247	ERDS2TJ562	5.6KΩ	1
R248, 249	ERDS2TJ561	560Ω	2
R250	ERDS2TJ562	5.6KΩ	1
R251	ERDS2TJ561	560Ω	1
R252, 253	ERDS2TJ472	4.7KΩ	2
R254	ERDS2TJ103	10KΩ	1
R255	ERDS2TJ221	220Ω	1
R256	ERDS2TJ331	330Ω	1
R257~260	ERDS2TJ221	220Ω	4
Ⓕ R261, 262 ⚠	ERD2FCJ6R8	6.8Ω, 1/4W, Fuse Type	2
R263, 264	ERDS2TJ103	10KΩ	2
R265	ERDS2TJ332	3.3KΩ	1
R266	ERDS2TJ473	47KΩ	1
R267	ERDS2TJ102	1KΩ	1
R268	ERDS2TJ101	100Ω	1
R269, 270	ERDS2T223	22KΩ	2
R271	ERDS2TJ473	47KΩ	1
R272	ERDS2TJ472	4.7KΩ	1
R273	ERDS2TJ101	100Ω	1
R274	ERDS2TJ102	1KΩ	1
R275	ERDS2TJ103	10KΩ	1
R276, 277	ERDS2TJ472	4.7KΩ	2
R278	ERDS2TJ102	1KΩ	1
CAPACITORS			
C1~3	ECEA1HU2R2	2.2μF, 50V	3
C4	ECEA1CU100	10μF, 16V	1
C5	ECEA1CU101	100μF, 16V	1
C6	ECEA1HU2R2	2.2μF, 50V	1
○ C7, 8	ECCR1H101J	100PF	2
○ C9	ECKR1E473ZV	0.047μF	1
C10	ECQM1H152KV	0.0015μF	1
○ C11	ECCR1H471J	470PF	1
○ C12	ECCR1H680J	68PF	1
C13	ECQM1H472KV	0.0047μF	1
C14	ECEA1CU101	100μF, 16V	1
C15	ECEA1HU2R2	2.2μF, 50V	1
○ C16, 17	ECCR1H101J	100PF	2
○ C18	ECKR1E473ZV	0.047μF	1
C19	ECQM1H152KV	0.0015μF	1
○ C20	ECCR1H471J	470PF	1
○ C21	ECCR1H680J	68PF	1
C22	ECQM1H472KV	0.0047μF	1
C23	ECEA1CU101	100μF, 16V	1
C24	ECEA1HU2R2	2.2μF, 50V	1
○ C25, 26	ECCR1H101J	100PF	2
○ C27	ECKR1E473ZV	0.047μF	1
C28	ECQM1H152KV	0.0015μF	1
○ C29	ECCR1H471J	470PF	1
○ C30	ECCR1H680J	68PF	1
C31	ECQM1H472KV	0.0047μF	1
C32	ECEA1HU010	1μF, 50V	1
C33	ECEA1CU101	100μF, 16V	1
○ C34 EG	ECKR1E473ZV	0.047μF	1
C35~37	ECEA1CU101	100μF, 16V	3
○ C38~41	ECKR1E473ZV	0.047μF	4
C42	ECEA1CU101	100μF, 16V	1
○ C43, 44	ECKR1E473ZV	0.047μF	2
C45, 46	ECEA1CU101	100μF, 16V	2
○ C47~49	ECKR1E473ZV	0.047μF	3
○ C50	ECCR1H680J	68PF	1
○ C51	ECCR1H681J	680PF	1
Ⓝ C52	ECEA1HN010S	1μF, 50V	1
C53	ECEA1HU010	1μF, 50V	1
C54~57	ECQM1H472KV	0.0047μF	4
C58	ECQM1H332KV	0.0033μF	1
C59	ECQM1H222KV	0.0022μF	1
Ⓝ C60	ECEA1HN010S	1μF, 50V	1
○ C61	ECCR1H101J	100PF	1
C62~C65	ECQM1H472KV	0.0047μF	4
C66	ECQM1H222KV	0.0022μF	1
C67	ECQM1H102KV	0.001μF	1
○ C68	ECCR1H101J	100PF	1
C69~73	ECQM1H473KV	0.047μF	5
○ C74, 75	ECCR1H330J	33PF	2
○ C76~79	ECKR1E473ZV	0.047μF	4
Ⓝ C80	ECEA1HN010S	1μF, 50V	1
C81	ECEA1CU470	47μF, 16V	1

Ref. No.	Part No.	Description	Per/Set
○ C82	ECCR1H470J	47PF	1
Ⓝ C83	ECEA1HN010S	1μF, 50V	1
C84	ECEA1CU470	47μF, 16V	1
○ C85	ECCR1H470J	47PF	1
Ⓝ C86	ECEA1HN010S	1μF, 50V	1
C87	ECEA1CU470	47μF, 16V	1
○ C88	ECCR1H470J	47PF	1
Ⓝ C89	ECEA1HN010S	1μF, 50V	1
C90	ECEA1EU100	10μF, 25V	1
C91	ECEA1CU470	47μF, 16V	1
○ C92	ECCR1H101J	100PF	1
○ C93	ECKR1E473ZV	0.047μF	1
C94	ECQM1H102KV	0.001μF	1
○ C95	ECCR1H220J	22PF	1
○ C96	ECKR1E473ZV	0.047μF	1
C97	ECQM1H103KV	0.01μF	1
C98	ECQM1H102KV	0.001μF	1
○ C99	ECCR1H681J	680PF	1
C100, 101	ECEA1CU101	100μF, 16V	2
○ C102	ECKR1E473ZV	0.047μF	1
○ C103, 104	ECCR1H330J	33PF	2
C105	ECEA1HU010	1μF, 50V	1
C106	ECEA1CU470	47μF, 16V	1
C107	ECQM1H472KV	0.0047μF	1
C108	ECEA1CU100	10μF, 16V	1
C109	ECEA1HU010	1μF, 50V	1
C110	ECQM1H473KV	0.047μF	1
C111	ECEA1CU101	100μF, 16V	1
C112	ECEA1HU010	1μF, 50V	1
C113	ECQM1H472KV	0.0047μF	1
Ⓩ C114	ECEA50ZR1	0.1μF, 50V	1
C115	ECQM1H102KV	0.001μF	1
C116	ECQM1H332KV	0.0033μF	1
C117	ECEA1HU010	1μF, 50V	1
○ C118~120	ECCR1H330J	33PF	3
Ⓝ C121	ECEA1HN010S	1μF, 50V	1
○ C122	ECCR1H330J	33PF	1
Ⓝ C123	ECEA1HN010S	1μF, 50V	1
Ⓩ C124	ECEA50ZR33	0.33μF, 50V	1
C125	ECEA1CU470	47μF, 16V	1
C126	ECEA1HU2R2	2.2μF, 50V	1
○ C127	ECCR1H101J	100PF	1
○ C128	ECCR1H030C	3PF	1
C129	ECEA1EU101	100μF, 25V	1
C130	ECQM1H682KV	0.0068μF	1
C131	ECEA1EU470	47μF, 25V	1
C132	ECEA1EU101	100μF, 25V	1
C133, 134	ECEA1VU101	100μF, 35V	2
C135	ECQM1H104KV	0.1μF	1
C136	ECEA1HU2R2	2.2μF, 50V	1
○ C137	ECCR1H101J	100PF	1
○ C138	ECCR1H030C	3PF	1
C139	ECQM1H682KV	0.0068μF	1
C140	ECEA1EU101	100μF, 25V	1
C141	ECEA1EU470	47μF, 25V	1
C142	ECQM1H104KV	0.1μF	1
C143	ECEA1VU101	100μF, 35V	1
○ C144, 145	ECKR1E473ZV	0.047μF	2
C146	ECEA1CU101	100μF, 16V	1
○ C147, 148	ECKR1E473ZV	0.047μF	2
C149	ECEA1CU101	100μF, 16V	1

Ref. No.	Part No.	Description	Per/Set
○ C150	ECKR1E473ZV	0.047μF	1
C151	ECEA1CU101	100μF, 16V	1
○ C152	ECKR1E473ZV	0.047μF	1
C153	ECEA1HUR47	0.47μF, 50V	1
C154	ECEA1CU330	33μF, 16V	1
C155	ECEA1HU010	1μF, 50V	1
○ C156, 157	ECCR1H220J	22PF	2
○ C158~162	ECKR1E473ZV	0.047μF	5
○ C163~165	ECKR1E473ZV	0.047μF	3
EG			

■ DIGITAL PERCUSSIVE PRESETS CIRCUIT (DPPS)

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1, 2, 5, 6	SVIGM5218L	Operation Amplifier	4
IC3	SVIGBA6110	VCA (Voltage Controlled Amplifier)	1
IC4	SVIGUPD4066B	Quadruple Bilateral Switch	1
IC7~10, 31~34	SVIGTC4016BP	Analog Switch	8
IC11	SVIGTC40H004	Hex Inverters	1
IC12	SVIG65020068	Gate Array	1
IC13	SVIG65020067	Gate Array	1
IC14	SVIG65040013	Gate Array	1
IC15	SVIG65020066	Gate Array	1
IC16	SVIGTC40H074	Dual D-Type Flip-Flops	1
IC17	SVIG8049-593	1 Chip, 8 Bit Microcomputer	1
IC18	SVIGUPC357C	Operational Amplifier	1
IC19	SVIGBA9221	12 Bit D-A Converter	1
IC20, 21	SVIGUPC624C	8 Bit D-A Converter	2
IC22	SVIG65020065	Gate Array	1
IC23	SVIG3256PE59	256K Bit Mask ROM	1
IC24	SVIG3256PE58	256K Bit Mask ROM	1
IC25	SVIG3256PE57	256K Bit Mask ROM	1
IC26	SVIG3256PE56	256K Bit Mask ROM	1
IC28~30	SVIGMC14504B	Hex Level Shifter	3
TRANSISTORS			
Q1	2SC1815GR		1
Q2	2SA1015GR		1
DIODES			
D1, 2	MA165TA5VT		2
QUARTZ & CERAMIC OSCILLATORS			
○ X1	SVQG43U8000T	8MHz, Quartz Oscillator	1
X2	SVQGCSA110MT	11MHz, Ceramic Oscillator	1

Ref. No.	Part No.	Description	Per/Set
SEMI-FIXED RESISTORS			
○ VR2	EVN61AA00B13	1KΩ	1
○ VR3	EVN61AA00B24	20KΩ	1
RESISTORS			
R1	ERDS2TJ682	6.8KΩ	1
R2, 3	ERDS2TJ473	47KΩ	2
R4	ERDS2TJ563	56KΩ	1
R5	ERDS2TJ682	6.8KΩ	1
R6, 7	ERDS2TJ473	47KΩ	2
R8	ERDS2TJ563	56KΩ	1
R9	ERDS2TJ472	4.7KΩ	1
R10∼12	ERDS2TJ273	27KΩ	3
R13	ERDS2TJ472	4.7KΩ	1
R14∼16	ERDS2TJ273	27KΩ	3
R18	ERDS2TJ333	33KΩ	1
R19	ERDS2TJ154	150KΩ	1
R20, 21	ERDS2TJ102	1KΩ	2
R22	ERDS2TJ682	6.8KΩ	1
R23	ERDS2TJ473	47KΩ	1
R24	ERDS2TJ104	100KΩ	1
R25, 26	ERDS2TJ222	2.2KΩ	2
R27	ERDS2TJ683	68KΩ	1
R28, 29	ERDS2TJ473	47KΩ	2
R30	ERDS2TJ104	100KΩ	1
R31	ERDS2TJ334	330KΩ	1
R32, 33	ERDS2TJ332	3.3KΩ	2
R37	ERDS2TJ184	180KΩ	1
R38	ERDS2TJ474	470KΩ	1
R39	ERDS2TJ184	180KΩ	1
R40, 41	ERDS2TJ332	3.3KΩ	2
R42	ERDS2TJ683	68KΩ	1
R43, 44	ERDS2TJ563	56KΩ	2
R45	ERDS2TJ153	15KΩ	1
R46	ERDS2TJ223	22KΩ	1
R47	ERDS2TJ104	100KΩ	1
R48, 49	ERDS2TJ821	820Ω	2
R50	ERDS2TJ331	330Ω	1
R51	ERDS2TJ104	100KΩ	1
R52, 53	ERDS2TJ821	820Ω	2
R54	ERDS2TJ331	330Ω	1
R55	ERDS2TJ104	100KΩ	1
R56, 57	ERDS2TJ821	820Ω	2
R58	ERDS2TJ331	330Ω	1
R59	ERDS2TJ104	100KΩ	1
R60, 61	ERDS2TJ821	820Ω	2
R62	ERDS2TJ331	330Ω	1
R63	ERDS2TJ104	100KΩ	1
R64, 65	ERDS2TJ821	820Ω	2
R66	ERDS2TJ331	330Ω	1
R67	ERDS2TJ104	100KΩ	1
R68, 69	ERDS2TJ821	820Ω	2
R70	ERDS2TJ331	330Ω	1
R71	ERDS2TJ104	100KΩ	1
R72, 73	ERDS2TJ821	820Ω	2
R74	ERDS2TJ331	330Ω	1
R75	ERDS2TJ104	100KΩ	1
R76, 77	ERDS2TJ821	820Ω	2
R78	ERDS2TJ331	330Ω	1

Ref. No.	Part No.	Description	Per/Set
Ⓕ R79 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	1
R80	ERDS2TJ105	1MΩ	1
Ⓕ R81	ERD2FCG100	10Ω, 1/4W, Fuse Type	1
R82, 83	ERDS2TJ100	10Ω	2
R84, 85	ERDS2TJ332	3.3KΩ	2
R86	ERDS2TJ272	2.7KΩ	1
R87	ERDS2TJ152	1.5KΩ	1
R88	ERDS2TJ122	1.2KΩ	1
R89, 90	ERDS2TJ153	15KΩ	2
R91	ERDS2TJ471	470Ω	1
R92	ERDS2TJ332	3.3KΩ	1
R93, 94	ERDS2TJ102	1KΩ	2
R95, 96	ERDS2TJ471	470Ω	2
R97	ERDS2TJ102	1KΩ	1
Ⓕ R98 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	1
Ⓕ R99, 100 ⚠	ERD2FCG100	10Ω, 1/4W, Fuse Type	2
R101	ERDS2TJ471	470Ω	1
R102	ERDS2TJ682	6.8KΩ	1
Ⓕ R104 ⚠	ERD2FCG100	10Ω, 1/4W, Fuse Type	1
R105	ERDS2TJ682	6.8KΩ	1
R106	ERDS2TJ272	2.7KΩ	1
CAPACITORS			
○ C1∼8	ECKR1E473ZV	0.047μF	8
ⓉⒻ C9	ECQV1H332JZ	0.0033μF	1
○ C10	ECCR1H471J	470PF	1
○ C11	ECCR1H331J	330PF	1
○ C12	ECCR1H101J	100PF	1
ⓉⒻ C13	ECQV1H472JZ	0.0047μF	1
○ C14	ECCR1H471J	470PF	1
○ C15	ECCR1H331J	330PF	1
○ C16	ECCR1H101J	100PF	1
ⓉⒻ C17	ECQV1H332JZ	0.0033μF	1
○ C18, 19	ECCR1H471J	470PF	2
○ C20	ECCR1H101J	100PF	1
ⓉⒻ C21	ECQV1H332JZ	0.0033μF	1
○ C22	ECCR1H471J	470PF	1
○ C23	ECCR1H331J	330PF	1
○ C24	ECCR1H101J	100PF	1
ⓉⒻ C25	ECQV1H224JZ	0.22μF	1
Ⓝ C26, 27	ECEA1HN010S	1μF, 50V	2
C28	ECEA1CU101	100μF, 16V	1
Ⓜⓢ C29	ECEA50M1R	1μF, 50V	1
○ C30	ECCR1H330J	33PF	1
C31	ECEA1CU101	100μF, 16V	1
C32	ECQM1H104KV	0.1μF	1
ⓉⒻ C33	ECQV1H334JZ	0.33μF	1
○ C35	ECCR1H221J	220PF	1
C36	ECEA1EU330	33μF, 25V	1
C37	ECEA1CU470	47μF, 16V	1
○ C38∼45	ECCR1H471J	470PF	8
ⓉⒻ C46∼53	ECQV1H222JZ	0.0022μF	8
C54	ECEA1CU101	100μF, 16V	1
○ C55	ECKR1E473ZV	0.047μF	1
○ C56	ECCR1H220J	22PF	1
○ C57	ECCR1H101J	100PF	1
○ C58	ECCR1H220J	22PF	1
C59	ECEA1CU101	100μF, 16V	1
○ C60∼70	ECKR1E473ZV	0.047μF	11

	Ref. No.	Part No.	Description	Per/Set
	C71	ECEA1HU010	1μF, 50V	1
○	C72, 73	ECCR1H220J	22PF	2
	C74	ECEA1CU101	100μF, 16V	1
○	C75	ECCR1H470J	47PF	1
	C76	ECEA1CU101	100μF, 16V	1
○	C77	ECCR1H101J	100PF	1
	C78	ECEA0JU101	100μF, 6.3V	1
○	C79~86	ECKR1E473ZV	0.047μF	8
○	C89, 90	ECKR1E473ZV	0.047μF	2
Ⓝ	C91	ECEA1CN100S	10μF, 16V	1
	C92	ECEA0JU471	470μF, 6.3V	1
	C93	ECEA1CU101	100μF, 16V	1
	C94, 95	ECEA1EU101	100μF, 25V	2
	C96	ECQM1H333KV	0.033μF	1
○	C97, 98	ECKR1E473ZV	0.047μF	2
	C99	ECEA1CU101	100μF, 16V	1
○	C100~105	ECKR1E473ZV	0.047μF	6
	C106	ECEA1CU101	100μF, 16V	1
○	C107	ECKR1E473ZV	0.047μF	1

■ CONTROL PANEL 1 CIRCUIT (CP1)

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1~3	SVIGM74LS174	Hex D-Type Flip-Flops	3
	IC4	SVIGM74LS138	Decoder	1
	TRANSISTOR			
	Q1	2SA830B		1
	DIODES			
S	D1~24, 42	MA162A	MA150IR	25
○	D25~41	SWLG30A	LED (red)	17
	SWITCHES			
○	SW1	SSSG1003A	Slide Switch (Sustain)	1
○	SW2	SSSG1002A	Slide Switch (Transpose)	1
		SSHG1030A	Switch, for Push Type	17
	COMPONENT COMBINATION			
	Z1	EXATA223S	Noise Suppression Filter	1
	RESISTORS			
	R1~5	ERD25TJ221	220Ω	5
	R6	ERD25TJ473	47KΩ	1
	R7	ERD25TJ333	33KΩ	1
	R8	ERD25TJ223	22KΩ	1
	R9	ERD25TJ472	4.7KΩ	1

	Ref. No.	Part No.	Description	Per/Set
	CAPACITORS			
	C1	ECEA1CU100	10μF, 16V	1
○	C2~C5	ECKR1E473ZV	0.047μF	4

■ CONTROL PANEL 2 CIRCUIT (CP2)

	Ref. No.	Part No.	Description	Per/Set
	VARIABLE RESISTORS			
O	VR1	EWD04315A53G	5KΩA, Main Volume	1
O	VR2	EVD04415B55G	500KΩB, Tuning Volume	1
	RESISTORS			
	R1, 2	ERO10TKF1001	1KΩ, 1/8W	2
	CAPACITORS			
	C1	ECEA1CU101	100μF, 16V	1
○	C2	ECKR1E473ZV	0.047μF	1

■ MANUAL KEYBOARD 1 (MKB1)

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUIT			
	IC1	SVIGM74LS138	Decoder	1
	DIODES			
S	D1~43	MA162A	MA150IR	43
	COMPONENT COMBINATION			
	Z1	EXATA223S	Noise Suppression Filter	1
	CAPACITOR			
	○ C1	ECKR1E473ZV	0.047μF	1

■ MANUAL KEYBOARD 2 (MKB2)

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUIT			
	IC1	SVIGM74LS138	Decoder	1
	DIODES			
S	D1~18	MA162A	MA150IR	18
	COMPONENT COMBINATION			
	Z1	EXATA223S	Noise Suppression Filter	1
	CAPACITOR			
	○ C1	ECKR1E473ZV	0.047μF	1

■ POWER SUPPLY CIRCUIT (PS)

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1	AN7815	Voltage Regulator	1
○	IC2	AN7915	Voltage Regulator	1
	IC3	AN7805	Voltage Regulator	1
	DIODES			
	D1 ⚠	SVDS4VB10	Rectifier	1
	D2~5 ⚠	SVDGSM1A02LF	Rectifier	4
	COILS & LINE FILTER			
	L1	SLTA6X1-D	Line Filter	1
○	L2~5, 14, 17 20~26	SLCGRN2		13
	SWITCH			
○	SW1	SSRG80A	Voltage Selector, Except for [MC]	1
	JACK			
○	J1	SJJG310A	AC Inlet	1
	FUSES			
	F1 ⚠	XBA2C12TR0	T 1.25A, 250V	1
	F2 ⚠	XBA2C06TR0	T 630mA, 250V	1
	F3 ⚠	XBA2C05TR0	T 500mA, 250V	1
	F4, 5 ⚠	XBA2C10TR0	T 1A, 250V	2
	F1 MC ⚠	XBA1F25NU14	2.5A, 125V	1
	F2, 3 MC ⚠	XBA1F10NU14	1A, 125V	2
	RESISTORS			
	R1, 2	ERDS2TJ102	1KΩ	2
	CAPACITORS			
	○ C1 ⚠	ECKCVA1472MF	4700PF, Line Capacitor	1
	C2, 3 ⚠	ECQE2A104MW	0.1μF, 250V, Across-the-Line Capacitor	2
	C2 MC ⚠	ECQU1A104MH	0.1μF, 125V, Across-the-Line Capacitor	1
	C4, 5	ECET35R472SW	4700μF, 35V	2
	C6, 7	ECEA1HU010	1μF, 50V	2
	C8 ⚠	ECQE2A104MW	0.1μF, 250V, Across-the-Line Capacitor	1
	C9	ECEA1CU222	2200μF, 16V	1
	C10	ECEA1HU010	1μF, 50V	1

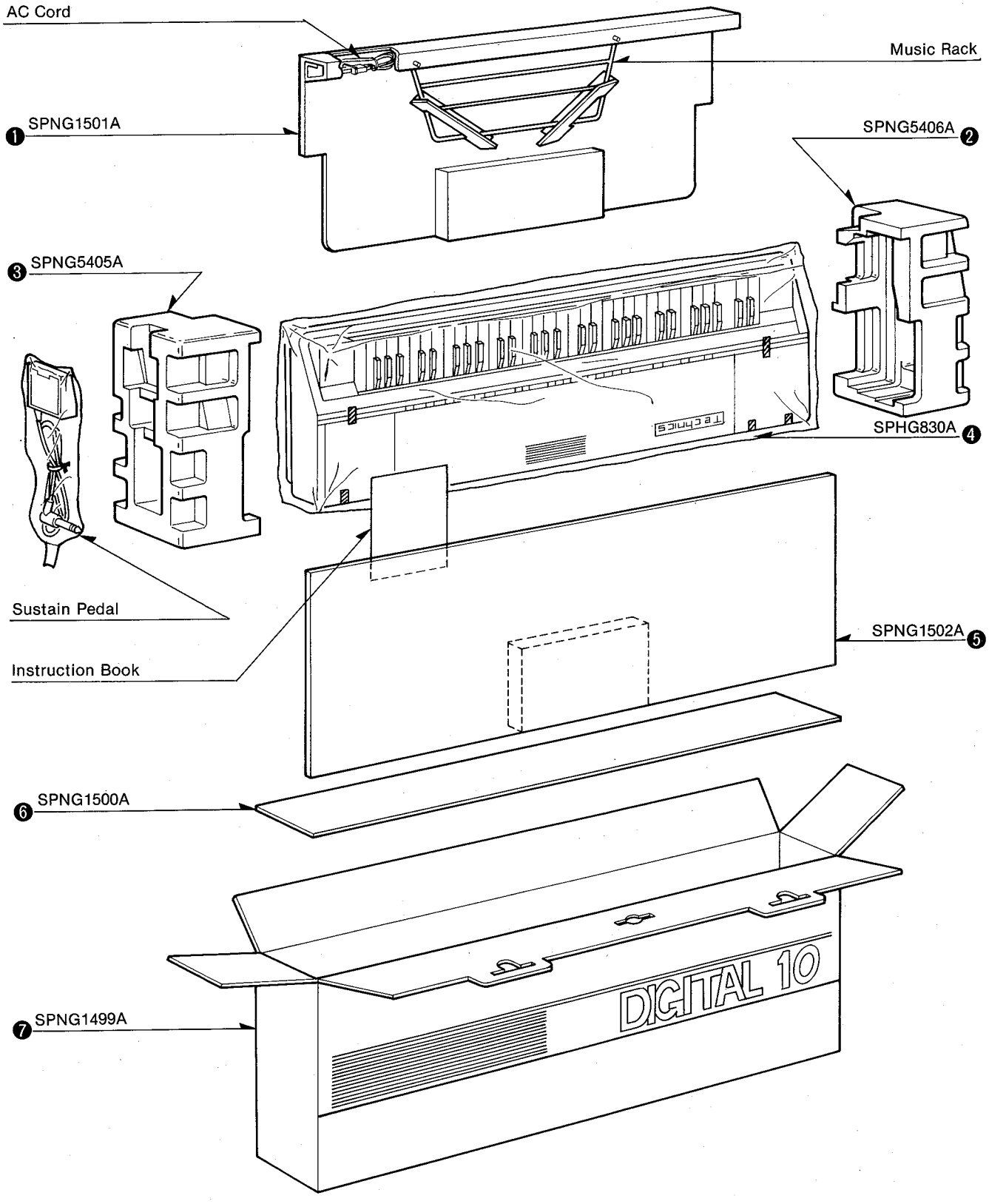
■ WIRING PARTS (See wiring diagram on page 12, 13)

Ref. No.	Part No.	Description	Per/Set
○	SWKG0217ZA	Connector, with Wire	1
○	SWKG0218LSA	Connector, with Wire	1
○	SWKG0442ZA	Connector, with Wire	1
○	SWKG0511ZA	Connector, with Wire	1
○	SWKG0646LSA	Connector, with Wire	1
○	SWKG0647ZA	Connector, with Wire	1
○	SWKG0843LSA	Connector, with Wire	1
○	SWKG1018LSA	Connector, with Wire	1
○	SWKG1019LSA	Connector, with Wire	1
○	SWKG1313LSA	Connector, with Wire	1

■ PACKING PARTS

Ref. No.	Part No.	Description	Per/Set
○	SPNGPV10EA	Packing Parts Assembly	1
○ 1	SPNG1501A	Spacer	1
○ 2	SPNG5406A	Pad, Left Side	1
○ 3	SPNG5405A	Pad, Right Side	1
○ 4	SPHG830A	Polyethylene Bag	1
○ 5	SPNG1502A	Protection Pad, for Control Panel	1
○ 6	SPNG1500A	Pad, Bottom	1
○ 7	SPNG1499A	Carton Box	1

PACKING


AC Cord
Music Rack
❶ SPNG1501A
SPNG5406A ❷
❸ SPNG5405A
SPHG830A ❹
Sustain Pedal
Instruction Book
SPNG1502A ❺
❻ SPNG1500A
❼ SPNG1499A
DIGITAL 10